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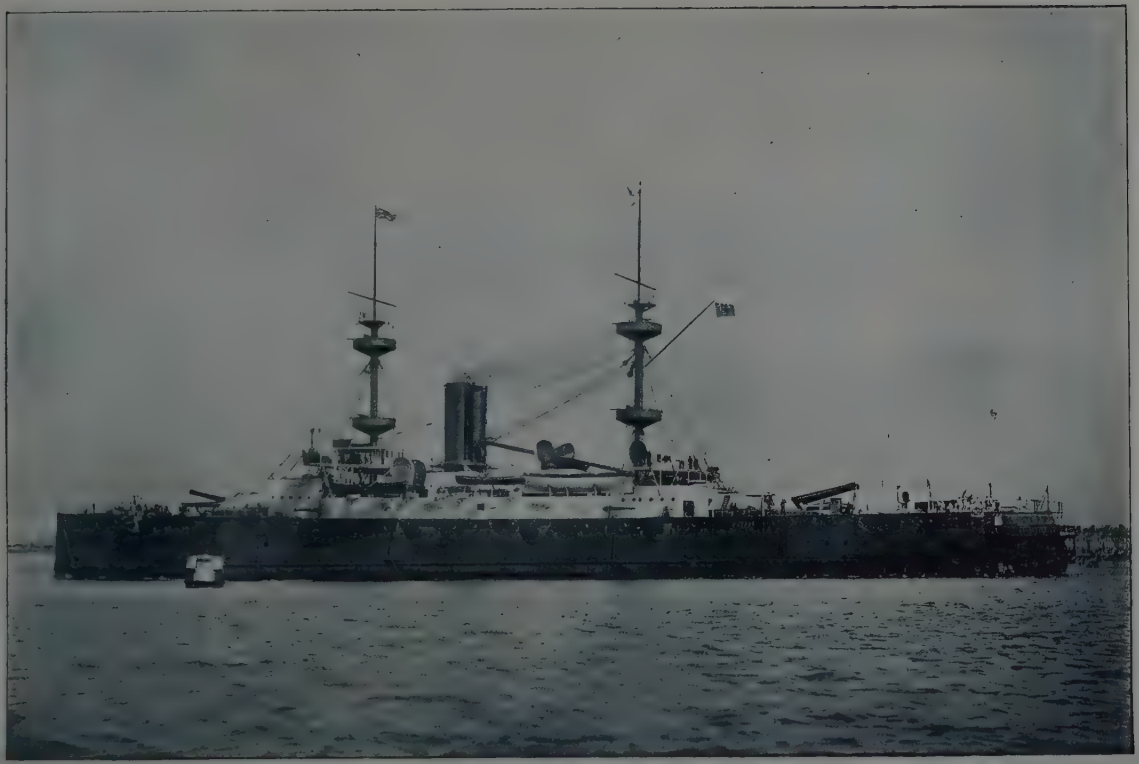

PLATE I. H.M BATTLESHIP MAJESTIC.

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A Sketch of Naval Warfare

FROM 1855 TO 1895

WITH SOME ACCOUNT OF THE

DEVELOPMENT OF THE BATTLESHIP IN ENGLAND

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BY

H. W. WILSON

WITH AN INTRODUCTION BY

CAPTAIN A. T. MAHAN, U.S.N.

AUTHOR OF "THE INFLUENCE OF SEA POWER ON HISTORY," ETC.

WITH MAPS, PLANS, AND ILLUSTRATIONS

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DEDICATION.

To

Spenser Wilkinson.

INTRODUCTION.

THE reflecting naval world understands in what singular uncertainty all naval problems are at present involved in the apprehensions of men. The development of the last twenty-five or thirty years has been, not merely extensive and rapid, but continuous and incessant. It has not consisted in a very few sharply defined and sudden changes, to which have succeeded intervals of tranquillity, allowing men's minds to adjust themselves to the new conditions. Great as the change is, when we contrast the conditions at the opening of the period named with those that now obtain, it has been in the strictest sense gradual. It has not been by bounds, but by a process resembling rather a steady upward progress along a very steep incline. It is true that in this ascent, if it shall so be called, we have had to pass marked features which aid to distinguish one stage from another, and can note in the retrospect certain events which may serve as landmarks, or milestones, to measure our progress; but still, upon the whole, phase has succeeded phase with a degree of continuity, blending one with the other, so as to make

it difficult to say that this year, or that year, definitely marked a change of system. At the end we find we have undergone a revolution; but it has been by the gradual and, in one sense, supportable, process of reform.

But, while this graduality of change has spared us the shock, which is caused by a sudden wrench, that reverses and overturns in an instant the ordered schemes of our lives, our professional thought and methods, it has, on the other hand, entailed a constant, severe, and wearying strain of watchfulness and suspense, which, in the long run tells, perhaps, as injuriously upon the self-possession and the judgment. We never know what it is to have our minds settled. With persons of average decision of character, and of average openness of mind, the wider the attention paid to the contemporaneous development of naval material, under the advances of science, the more doubtful and ill-defined inclines to become the mental appreciation of existing conditions. Confusion of impression usurps the place of well-ordered professional opinions, evolved from well-digested data. The mass of material that passes into the knowledge becomes too great for proper assimilation, and while, with some, the general result is apt to be an apathetic acquiescence in the feeling that it is impossible to keep up with the rush, with others, the excitement of intellect and imagination —for excitement it unquestionably is—leads, through impatience of the uncertainties, to rash and extreme

views, adopted from too partial consideration of one set of factors, or too deep impression by them, without regard to qualifying conditions on the other side.

Now it is, of course, vain to complain of a state of things which is a characteristic of the age in which we live, affecting all other pursuits that deal with material, as well as our own. The improvement of mechanical processes, urged on by a demand which becomes more and more importunate on the part of the public, and by a competition between inventors growing continually more intense, is limited only by the discoveries of science, which clear the way for the advance. We must perforce accept—and by we I mean, not naval officers only, but all those who feel the importance of navies, and of naval strength, to the countries who possess them—a condition of things which is causing unresting change in the weapons of every kind with which naval war is waged—in ships, guns, armour, engines, and all the appliances which improve their efficiency.

But is there, then, no rest for us?—no approximate certainty? Must we, too, as rational human beings, to whom a certain skeleton of accepted beliefs and principles is essential for the ordering of our lives, must we, too, as practical men, concerned with one of the most practical of professions, be for ever embarked upon a sea of unrest, undergoing a constant so-called development, but actual revolution, like that of the lifeless weapons which we have to wield? In a

certain sense, of course—yes; we must, of course, keep fully abreast of the times, in so far as to understand thoroughly the capacities and limitations of the implements put into our hands; but I hold that we have it in our power, and that too few of us avail ourselves of the fact, to single out of this tangle of inventive energy and change a saving clue of thought, which, entering into our mental constitution, shall serve to steady us, to give repose to our ideas, and directive force to our reflections upon the present and the future, with all their possibilities.

In fact, just as in all progress—social, political, economical, what not—there are two principal factors, the conservative and the progressive, so it is in the military professions, including the navy. And, while in politics these factors emphasize themselves into parties, which, whatever their local names, are chiefly characterised by the tendencies the terms imply, it is at the same time true that neither one is wholly untouched by the spirit which chiefly animates its opposite. The conservative will not disavow all wish for change, for improvement; nor, for the most part, will even the most radical deny the advantage of a certain continuity in national development—a certain conservation of the past in the present, that the goal of the future may be reached more quickly and securely, with less of jar and friction.

From this point of view, the average man—average, not in ability, but in equipoise between extremes—will

probably admit that the conservative factor supplies, at each moment of progress, the solid basis, upon which alone the yet untried fabric of advance can be safely erected; or, to change the simile, the comparatively permanent skeleton, upon which the growth and development of the body may proceed without collapsing into formless structural anarchy.

From the general character of mind involved in the two tendencies we have just mentioned, it results that the conservative will naturally attach greater importance—comparatively far greater—to principles and methods which have the warrant of experience; and that even in a proposed advance will seek to frame, or modify it upon lines in general conformity with such experience. In other words his appeal will be to history, and it is this very fact which makes the party of conservation—whatever its name in any country—a more potent factor for the well-being of the nation than the party of advance. It treads upon surer ground, it walks by steadier light, it prefers experience to experiment; it is only when it rejects well-considered experiment, or wilfully shuts its eyes and refuses consent to reasonable probabilities of improvement, that it becomes reactionary and deserves to fall.

For experience, after all, must be the guide to experiment; the past must light us on to the future; so only shall change be well ordered and sure progress, not movement only. Furthermore, when this well-digested mastery of the past and its teaching

exists—exists, not as a mere accumulation of knowledge, but analyzed, compared, and understood, transmuted into wisdom and formulated into principles—it moves without embarrassment, and without undue anxiety, among the developments of the present. It is more quick to understand, more acute to understand rightly, more prompt to apply to changes of conditions the necessary change of action they require, because it is vivified by correct principles firmly held, which readily embody themselves in correct action under circumstances apparently—*i.e.*, externally—diverse.

In the navy, the element of progress is chiefly represented by the material development of the implements of naval war, which, already revolutionary in the degree of change effected, has not yet reached a pause, despite some evident signs of reaction, of the mark being overshot. It is to be feared that, in this impetuous advance along the whole line, the true spirit of conservatism has not held its due place of consideration. Inertia, apathy, mere opposition to change—because it is change—plenty of such bastard conservatism there has doubtless been; and, as always, it has deservedly gone to the wall, and carried true conservatism, undeservedly, along with it. Progress, development, the last new thing, has had the field pretty much to itself.

Did no further harm arise from this, it might be silently borne; but harm does arise. No profession,

as no nation, can afford to break with its past. Only in the light of the past can it order its future aright; not by dumb following of precedents, but by an intelligent acquaintance with past experience, and by the deduction from it of principles, whose life is never measured by the passing day. What one great leader did under one set of circumstances will, when thus thought down, often give light to another under circumstances apparently most diverse; and even though one particular incident may not be thus fruitful for some other particular situation, from such studies a habit of thought is formed, consciously or unconsciously, which gives right direction, right methods, in seeking the solution of problems that differ in date and external characteristics. There is surely such a thing as imbibing the spirit of a great master, by study of his actions, as well as mere copying his works. Nay, more; the salvation of a critical moment may come from such illumined knowledge of the past. Has not the great Napoleon, than whom none has more urgently impressed the need of studying history, said, "Upon the field of battle the happiest inspiration is often only a recollection."

Strategy and tactics, the highest and noblest exercises of the profession, are, after all, only the adaptation of means to ends. The ends are many and various, the conditions of each case even more different than the ends, and the consequent means

adopted must, therefore, vary proportionately in external characteristics. Yet there is a practical agreement among authorities, both of the field and of the study, that in history—experience—are to be sought the data, and from the data to be extracted the principles, in whose light alone action can safely be determined. No age nor conditions are excluded; the names of Alexander and Hannibal are coupled with those of the latest masters of the art. What higher testimony can be imagined to the value of the conservative side of the professions, whose root principles thus run back, in eternal vitality, through the ages—ever old, yet ever new. Yet, if Napoleon be correctly reported as saying that no system of tactics should continue, unchanged, over ten years, we find that the one who gives deserved pre-eminence to the historical, conservative, undying element in the profession he so marvellously adorned, no less insists upon the necessity of the progressive factor in its own proper sphere.

Nor is it only in the successes of its most distinguished masters that the history of warfare is instructive. Wide and luminous as would be the field of study thus opened, it by no means exhausts the material which the past offers us, in the experience of mankind at war. The failures as well as the achievements of the great; the blunders of the incompetent; errors of policy; errors of detail; fault of organization, of administration; instances

of apathy, sluggishness, over-caution, inadequate preparation; enterprises small as well as large; all can carry their share of teachings to one whose mind is either prepared to detect them, by correct understanding of the elementary principles, or has that native faculty to analyze, and to collate instances, which enables its possessor to formulate for himself the laws of the science he investigates. I recall a quaint yet accurate remark once made to me by a naval officer, which shows how an apt scholar can draw a lesson from the smallest incident. He said that the old Roman legend of the Horatii and the Curiatii illustrated the art of war, though on so small a scale, as truly as the victories of a great captain; for the one Horatius, having opposed to him three unequally disabled foes, so conducted his battle as to separate them, and destroy them successively, in detail.

The disposition, so prevalent a few years ago as to be well-nigh universal, to look upon past naval history as a closed book, obsolete for all useful purposes, has in a large measure disappeared. Too many distinguished names have pronounced on the other side for their authority to be disregarded, and men have begun to admit that the sea fights, and the greater sea chieftains of the past, have transmitted to us lessons as valuable as the great captains of land warfare have to their successors. Yet I question whether, even yet, naval officers in general have come

to realize that in looking behind rather than before, in studying the past, near and remote, rather than in speculating upon the future, they will find the solid ground, the conservative basis, the fruitful source and well-spring of principles, by whose clear and steady light they can best meet the conditions of the present —and of the future, when it in turn shall have become the present. When they do so, they will feel that they no longer belong to a profession in a chaotic state of evolution, whose destiny no man can foresee, and of whose principles none can affirm. The clash of opinions will not indeed cease altogether so long as man remains man; but the common acceptance of such general truths as are deducible from experience, will, by supplying a standard of reference, exclude the rash surmises, or experiments, of less disciplined minds, will control extravagances, and turn the attention of officers, as a class, to the sagacious use of what they have, rather than to disputes about what they will or should have.

What navies now need, in fact, is not so much further advance in material development, in which, as a rule, all share alike, but more general and accurate knowledge of the results already obtained, an appreciation of the bearing of those results upon modern practice, and then, finally to apply the teaching of the past to this better knowledge of existing conditions. To such knowledge, the experience of actual warfare is the most important contributor. Scanty indications

there obtained, are worth much more than the most carefully arranged programme, in which the elements of actual danger, of perplexity resulting from anxious doubt, of the confusion and chances of real battle, cannot be efficaciously represented. How does the report of the battlefield correspond with that of the proving ground as to the realised resistance of armour to guns? Or what is the verdict as to the most efficient distribution of tonnage between larger and smaller vessels?

To the knowledge of results, as evidenced by the test of war, the book now before us gives valuable assistance, by bringing together, in copious detail, the various operations of all kinds in which ships have been engaged since 1860. Its title, "Ironclads in Action," is narrower than its actual scope, for it has inevitably introduced many episodes concerning vessels to which the term Ironclad can scarcely be strictly applied. But, by collating the experiences of vessels of all kinds during these eventful thirty years, it is in form an appeal to history, and that of a period which, if distinguished by few exceptionally striking events, is yet that of the great transition, which has so powerfully disturbed the mental processes and professional convictions of naval officers. It is, therefore, a contribution to the very desirable end of disposing men to pause, to reflect, to see really where they have come out at the end of these many years of disquieting hurry and change, and to ask, whether, after all, the

lessons of the thirty years have changed the fundamental principles, as derived from earlier days, upon which their future action must be based. If not, the problem now confronted is simply one of adaptation, of fitting ancient truths to new conditions. Though for a time perplexed as to methods, we have no need to despond; for, in proportion as we have assimilated the teachings of the past, we hold in our hands the sure clues that in the future will not mislead us. To recognise and respect this conservative element, which links the future to the past, and imparts coherence to both thought and action, will be no slight gain. It is the counterpoise needed to balance the often crude and impatient generalizations which are the evil side of that unceasing progress we are prone to vaunt with too little discrimination.

A. T. MAHAN.

AUTHOR'S NOTE.

The present work is an attempt to give, with fair detail, a sketch of naval warfare in the period of transition which has followed the introduction of steam. There are many excellent accounts of isolated actions or wars, but, so far as I know, there is no one book which includes them all, or which affords a means of ready reference to subjects and names. Though the world's experience of naval war has been very small in the eighty years which have elapsed since the Treaty of Vienna, though there has been no really great and decisive battle at sea to be compared with Trafalgar, there is yet a certain amount of scattered material which may serve as the basis of inductions. This material I have endeavoured to bring together. Strictly speaking, history is one and continuous, but for purposes of convenience it may be divided into periods. It was not till 1855, when armour was first tested in action, that steam and machinery began to change the outward appearance of war at sea. For this reason the present work begins with Kinburn.

Captain Mahan, to whom all of his race owe so deep a debt of gratitude, in his luminous introduction has stated the reasons why men should look for guidance rather to the experience of the past than to the experiments of the future. Without a great European war, an appeal to history alone can throw light upon these questions which agitate the naval world, and to which Lord Salisbury has recently alluded: "In respect to armaments, nobody yet knows what the torpedo will do in actual warfare. Nobody yet knows which is the most important, the big ironclad or the swift cruiser. These things can only be decided by experience. You can obtain for any particular opinion any collection of expert authority you wish to get, not because expert authority is insincere, but because the human mind is so constituted that a man of great energy and experience always differs from his neighbour who is equally qualified, and while that difference, that uncertainty exists, while we are in that period of

transition, our wisdom is to make ourselves so certainly safe that we can look upon any issue of the experiment with indifference. We must make ourself safe at sea whatever happens." History may not make everything clear and certain, but the abiding principles which can be discerned perhaps, behind the ceaseless flux, will be of no small assistance whether to the individual or the nation.

The conception of the work in its present scope and compass is wholly due to Mr. R. B. Marston, to whom I proposed a history of narrower and less ambitious aim. To Mr. Marston my warmest thanks are due for the generous assistance which he has given me at every point, and the great interest he has taken in the book.

As far as possible I have gone to the original sources of information, and I have personally inspected and visited most of the English ships and many of the French ships described. In some cases, however, I have had to fall back upon secondary authorities, especially in the accounts of the war in the East. In Appendix IV. will be found most of the works to which reference has been made, whilst to those marked with an asterisk I would make special acknowledgment. I have striven to obtain accuracy, but with so many names, facts, and figures, it is perhaps too much to be confident that I have altogether succeeded. If it be said "Cecy est un livre de bonne foy," I shall be satisfied.

A very considerable proportion of my space has been devoted to the naval events of the American Civil War. A struggle so colossal, so protracted, and of such enduring interest to our race, cannot well be condensed into a few pages. I have exercised a certain selection, omitting for instance, the capture of Port Royal, because it teaches little that is not taught elsewhere. In the chapters on the Blockade, and the Warfare against Commerce, I have gone outside the strict limits of my title. The extreme importance of both subjects may be my justification. So, too, in the Franco-Prussian War there is rather absence of action than action to be chronicled, but here what was not done may be instructive to those who imagine that a fleet can capture fortified ports with little ado. A short sketch of the awakening of Japan has been given to explain the moral superiority which gave the Japanese success.

In conclusion, I must thank the authorities of the British Museum Reading Room and Patent Office for their ever ready courtesy and assistance.

ERRATA.

MAPS.

Owing to an unfortunate oversight, there are some inaccuracies in the Maps and Plans. These are:

I. 94. Charleston. The position of the ships attacking Fort Sumter is incorrect. No vessel went inside the dotted line representing three fathoms of water.

I. 184. The shading on the coast should stop at the dotted line a little south of Washington. North of that point the coast-line was not in the hands of the South.

II. 20. The torpedo which sank the *Blanco* is not shown on the inset plan.

II. 36. Armagao should be Armaçao.

II. 57. The booms have been omitted in the plan of Wei-hai-wei.

II. 88. In the diagram I. of the battle of the Yalu, "Kuans Chia" should be "Kuang Chia."

II. 232. *Conquerer* should be *Conqueror.*
Centurian should be *Centurion.*
The armour of the *Centurion* should be "Compound and Nickel-steel" instead of "Compound"; of the *Majestic* "Harveyed" instead of "compound."

II. 262. Admiral Baudin, "1870" should be "1879."

TABLES.

Table XXII. ii, 310. *Majestic's* weight of ahead and stern fire should be 1900lbs. instead of 2100lbs.

ILLUSTRATIONS.

II. 100. "The *Chen Yuen* in action" is by F. T. Jane not J. T. Jane.

TEXT.

I. 31. Line 22, "30lbs. or 50lbs." should be "30lb. or 50lb."

I. 34. Note †, "United Service Institute" should be "United Service Institution."

I. 77. Line 15, *Lancaster* should be *Switzerland.*

II. 55. Last line, "tha th e" should be "that the."

II. 58. Line 30, "12 6-inch" should be "12.6-inch."

II. 135. Note, the quotation mark should follow "shock," line 2 from bottom, instead of "wound."

II. 271. French Battleships. "3 Formidable type" should be "2 Formidable type."

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PROLOGUE.

THE CAPTURE OF KINBURN.

November 17th, 1855.

It is with the Crimean war that the age of the ironclad may be said to begin. Before 1854, inventors had dreamed, suggestions had been put forward, but now these dreams and suggestions were materialised. At Sinope, on November 30th, 1853, for the first time, the deadly effect of shell-fire upon wooden ships was proved in action. A Turkish squadron, consisting of seven frigates, two corvettes, and two steamers, was at anchor under the guns of a small battery in Sinope Roads.* The Turks were not expecting a Russian attack, and were wholly off their guard. The assailing fleet, under Admiral Nakhimov, consisted of six ships of the line—the *Tri Sviatitelia*, *Rostislav*, *Tchesmé*, *Paris*, *Empress Maria*, and *Grand Duke Constantine*, with three steamers. All these ships were of large size and armed with the smooth-bore shell-gun. The action was brief and decisive. The Turkish fleet had no shell-guns, and was simply annihilated: it was a massacre rather than a battle. Three Turkish frigates were ablaze within a very few minutes, and two transports were sent to the bottom. One steamer escaped to tell the tale: the others were taken or destroyed. The Russians on their part lost thirty-four killed and 230 wounded, whilst the number of Turks killed and wounded is unknown, but must have been very large. As if to point the moral yet more clearly, on October 17th, 1854, a French and English fleet of wooden ships, whilst attempting before Sebastopol to silence Fort Constantine, was very roughly handled by the

* In addition there were two transports.

Russians. A month earlier, on September 5th, 1854, the Emperor Napoleon had ordered the construction of five floating batteries which were to carry armour. He had before the war caused experiments with plating to be made at Vincennes, and their results were embodied in the new craft. These ships were named the *Lave*, *Tonnante*, *Congréve*, *Foudroyante*, and *Dévastation*.

They were of 1400 tons displacement, 64 feet long, 42½ feet broad, and had a draught of only 8 feet. Their hulls were of timber upon which was superimposed iron armour 4 inches thick. Their armament was composed of eighteen 50-pounder smooth-bores, and their crew of 280 sailors and forty marines. As originally designed, they were to carry masts and sails, for the mastless ironclad was not a conception which at first appealed to the naval architect. They were fitted with auxiliary steam-power applied through the screw. They had a certain amount of deck protection above the casemate or battery, as the deck over it was of oak, plated with thin iron. They had the germ of a conning-tower in the shape of a bullet-proof iron shelter for the steersman, communicating with the engine-room by means of a voice-pipe. They were ventilated artificially by means of fans, and as there were few openings from the battery, there were not wanting prophets who foretold that at the third round their crews would be suffocated. Others asserted that they never could float, and would be utterly useless for war purposes. When completed and first tried, they were found to sail very badly. Their masts were accordingly replaced by lighter poles which could be removed when clearing for action. Their funnel and bulwarks were arranged to take down so that there should be no projection above the armour. Though they were not seaworthy, and were never trusted upon open waters out of the sight of more orthodox vessels, they were an original conception, and reflected great credit upon the French architects who designed them. They had a heavy sullen appearance in the water, were spoon-bowed, and painted grey.

The design of these vessels was communicated by the Emperor to the English Admiralty, who, not without some misgivings and considerable delay, ordered, four similar craft, the *Glatton, Meteor, Thunder*, and *Trusty*.* Their displacement was 1469 tons, their length, 172½ feet, and their beam, 43 feet 8 inches, whilst the draught was only 7 feet 9 inches. It was proposed that they should be given triple screws, as the small draught of water rendered it impossible to get the power required to propel them satisfactorily out of a single screw, but the proposal was never carried out. They had engines of 150 horse-power nominal, and four tubular boilers supplying steam at a pressure of 60lbs. Like their French prototypes, they were lightly masted, having three masts with fore-and-aft rig, and one diminutive funnel. They lay very low in the water, and were pierced in their armoured battery for twelve or sixteen guns. The port-holes were of great size—3 feet 4 inches by 2 feet 10 inches—and here was one great weakness. They could, in the words of a contemporary writer, "neither steam, sail, nor steer," so that they were not altogether satisfactory. They failed to arrive in sufficient time to play any part in the war.

As soon as the French batteries were ready, three of them † were sent out to the East in charge of frigates, and arrived safely at Kamiesch Bay in the Crimea, where they joined the large allied fleet, which, under Admirals Lyons and Bruat, was preparing for an attack upon Kinburn. The English squadron consisted of six line-of-battle ships, mounting 583 guns; seventeen frigates and sloops, mounting 831 guns; ten gunboats; six mortar-boats; and ten transports. The French squadron included, besides the floating batteries, four line-of-battle ships, three corvettes, four despatch-boats, twelve gunboats, and five mortar-boats. To distract the attention of the Russians from the real objective of the allies, a feint was

* Four similar but somewhat improved batteries were ordered in England a little later. The names of this second batch were the *Ætna, Erebus, Terror*, and *Thunderbolt*.

† The *Lave, Tonnante*, and *Dévastation*.

made against Odessa on October 8th, 1855, after which the whole fleet proceeded to Kinburn. On the 15th, it lay off that place, and preparations for the attack were made, whilst French and English troops were disembarked. The floating batteries stowed away their top-hamper, though they did not strike their funnels. On both this day and the next, the Russian works were shelled at intervals by the gun and mortar-boats, without producing any impression.

The Russian works at Kinburn were situated on a long, narrow, and sandy spit, which runs from south to north, athwart the wide and shallow estuary of the Dneiper. On the other side of this estuary is the town of Otchakoff, with Fort Nikolaiev, which, at this time, mounted fifteen guns. At Kinburn there were three works. The main fort lay furthest to the south, and was of stone, bastioned and quadrilateral, with guns mounted in casemates and *en barbette*. A short distance to the north of this was a battery built of stone, and circular in shape; whilst to the north of this again was an earthwork. The channel leading into Dneiper Bay passed close under the guns of these works, but it had been already forced without any serious difficulty by six gunboats and steamers. Kinburn was, therefore, isolated; on land it was cut off by the allied army marshalled across the spit; to seaward were the frigates and line-of-battle ships; in the Bay, the gunboats. On the night of October 16th—17th, soundings were taken by the French close under the works, and buoys for the floating batteries were laid down without any casualties, though the boat thus engaged was fired upon by the Russians. At dawn, on the 17th, preparations for action were completed. The three ironclads were to steam in to their buoys at a distance of 800 yards from the main fort. The line-of-battle ships were to be drawn up on the starboard quarter of the floating batteries, distant 1200 yards from the main work. The other two Russian works were left to the frigates, corvettes, and gunboat flotilla; whilst the mortar-boats anchored 2800 yards to the south of the fort.

At 7 a.m. the fires were stoked up on board the floating batteries, and two hours later they moved in. At 9.30 they opened the bombardment, fighting twelve guns on the broadside. The Russians had already fired upon them as they came in, but without the faintest effect. Mortar and gunboats in quick succession came into action, and last of all the line-of-battle ships joined in the attack. The floating batteries, however, were the decisive factors. At such a short range their projectiles were delivered with the most telling effect, and the Russian works seemed to crumble under the impact of their projectiles. On board them, in the armoured casemate, there was little light, as the thick smoke from the guns could not readily escape. The sight between decks was very weird, the men moving to and fro in this deep obscurity like shadows, whilst the steady clang of the enemy's shot upon the plating echoed like the blows of a cyclopean sledge-hammer. What casualties occurred were through shot and splinters entering by the port-holes. The *Dévastation* suffered most. One shot came through her centre port, took off the head of a gunner and struck a sergeant of marines in the stomach, embedding itself in the opposite side of the ship. One gunner had three sponges shattered in his hands without himself suffering hurt. The Russian shot and shell, mostly 32-pounder and 18-pounder, splashed all round the ship or struck her without producing the least effect. On the other hand, the Russian gunners at both barbette and casemate guns were much exposed. The forty marines on board each of the French batteries were armed with rifles and instructed to fire at the crews of the enemy's guns, which they did with great effect. The Russian guns were repeatedly hit by the projectiles of the floating batteries, and many were tossed off their carriages or broken. Against invulnerable enemies there was nothing to be done, and the Russian commander acted wisely in hoisting the white flag at 1.35 p.m., after three hours resistance. The Russians lost forty-five killed and 130 wounded, the allies two killed and twenty-five wounded, all on board the floating

batteries. The *Dévastation* had been hit thirty-one times on her side and forty-four times on her deck. In no case was there more than a dent, from one to one-and-a-half inches deep. For all practical purpose she was in as good condition when she came out of battle as when she entered it. The *Lave* had sixty hits; the *Tonnante* about the same number. In the Russian fort of sixty-two guns and mortars, twenty-nine were dismounted.

"Everything may be expected from these formidable engines of war," wrote Admiral Bruat in his official report. The English officers, from Admiral Lyons downwards, were astonished at their success, and perhaps not less the prophets who had foretold all manner of disasters. Though the wooden ships lost not a man, this was due, not to their inherent superiority to the armoured batteries, as some bold man argued in after years, but to the fact that the batteries engrossed the whole attention of the Russians. No captain of a wooden ship, after Sinope and the failure of September 17th, 1854, before Sebastopol, would have dared to take his ship in so close to the enemy's guns, or, if he had done, would have failed to pay very dearly for his act. On the 17th of September, the loss of life on the English squadron was forty-four killed and 266 wounded, or twenty-nine per 1000 of men engaged.* On this occasion it was not three per 1000. No doubt the Kinburn works were smaller and weaker than those at Sebastopol, but still the immense value of armour would seem evident. Yet not for another four years did England realise the truth, whereas France set to work at once to reconstruct her fleet. The danger of such delay is seen in the fact that in 1861, England was weaker at sea than her more enterprising and inventive rival.

* Two English and six French ships were very badly damaged and had to be repaired. The French lost in men thirty killed and 164 wounded.

IRONCLADS IN ACTION.

CHAPTER I.

THE *MONITOR* AND THE *MERRIMAC*.

1861 to 1862.

IT was the second year of the American Civil War, the struggle between the Northern, or Federal party, and the Southern, or Confederate, the one striving to maintain the Union, the other to uphold slavery and the right of the States composing the Union to complete internal autonomy. The war was one in which, from the political and physical conditions then obtaining, sea power was bound to play an enormous part, and whichever of the two combatants could secure the grasp of the sea was bound to be victorious.

Perceiving this both sides turned their attention to the creation of a navy. The Southern States, devoid of manufactures and engineering works, with no shipwrights and scarcely a single navy yard, were in no very favourable position for the development of such a force. The capture of Norfolk, Virginia, however, gave them a dock and some wooden hulls upon which to go to work. Moreover a vast quantity of ordnance had fallen into their hands at this same place, and, included in the 1198 cannon, which they found there, were fifty-two Dahlgrens, heavy smooth-bores of a type then considered admirable.* The dearth of iron and the paucity of iron foundries made such an acquisition peculiarly

* All the Dahlgrens captured were of 9-inch calibre. Besides these, one 11-inch columbiad (or shell-gun), two 10-inch, and seventy-nine 8-inch guns fell into the hands of the Southerners, making a total of 134 heavy guns.

valuable to them; indeed, it is not too much to say that it was mainly with these weapons that in the earlier days of the war their ships and forts were equipped. If the South lacked the implements with which to fight, it was not much better off in respect of trained men to handle them when improvised. There were officers in plenty, but there were no seamen, a fact which must not be forgotten when we come to the performances of their ships in battle. At the same time the officers were both able and zealous; full of professional knowledge, and not averse to innovations in naval science.

The warships of the United States which had, with the exception of the vessels scuttled at Norfolk, remained in the hands of the Northern Government, were, one and all, built of wood, and of the old pattern. The grand total reached seventy-six vessels, mounting 1783 guns, and displacing 105,000 tons; but of these no less than thirty-two relied upon sails alone for their motive power. They were obsolete, even before the introduction of armour, as steam was already an indispensable requisite for the warship. Some of the others were fine and powerful ships, but very few indeed were adapted for operations in the shallow waters of the Southern States. For the neglect of the navy, which had left the Central Government unable promptly to equip a formidable squadron, the North had to pay very dearly. Few of the Southern ports were protected by defences which could have withstood the attack of a moderate naval force in 1861; but, as months passed without such attacks being delivered, the works at Charleston, at Wilmington, and at Mobile grew ever stronger, till they were capable of holding out against anything but a vigorous and combined assault by sea and land. A strong navy would have suppressed the Secession at its inception.*

For the South to endeavour to compete with the North in ships of the ordinary type was hopeless. The only chance lay in designing vessels of extreme power, which could be manned by small crews, and which could afford their crews

* "Battles and Leaders," i., 615.

great protection. "Inequality of numbers may be compensated by invulnerability. Not only does economy, but naval success, dictate the wisdom and expediency of fighting with iron against wood, without regard to first cost," wrote Mr. Mallory, Secretary of the Confederate States' Navy. He further pointed out that an iron-armoured ship could cope with countless wooden frigates, whereas, if the South built wooden ships, they must fall victims to the more numerous vessels of their type which the North possessed. A new and formidable type must be created. These words were written in May, 1861, and reveal great tactical insight. Not that there was anything new in the idea of armour, though its application to ships, however admirable in theory, had not as yet been severely tested in war. At Kinburn armoured floating batteries had indeed figured, but opinion was divided as to their success. Again, in both England and France ironclads were under construction, or actually constructed, whilst a Mr. Stevens, as far back as the forties had commenced an armoured floating battery in the United States. But in the United States, a community at once inventive and disposed to welcome departures from the existing designs, the South had the credit of being the first to adopt armour. The North had at least a dozen ships which might have been protected in the same manner as the *Merrimac*, but for months nothing was done.

It was Stevens' ironclad vessel which the Southern designers had in mind when they constructed the *Merrimac*.* Having no adequate engineering shops, and, as has been said, very scanty ship-building resources, they were driven to use the hull and engines of the United States' ship of that name. The *Merrimac* had been a 40-gun frigate of 3500 tons, and her remarkable size and novel artillery had attracted great attention in England on a visit which she paid during the year 1856.†

* She was re-named the *Virginia*, but the older title is used as the better known.

† The following is a description of the old *Merrimac*: "The *Merrimac* is considered as an experimental ship . . . . The length at the load water line is 257 feet; her extreme breadth, 57 feet 4 inches; and her draught of water,

At the commencement of the war she was lying off the Norfolk Navy Yard with several other ships, wanting crews, when, as the place was threatened by the Confederates, the United States' officer in charge decided to burn the stores and destroy the ships, which he thought himself unable to remove. She was in consequence set on fire, but sank, apparently before much damage had been done to her, and when the Confederates, a few days later, occupied the town, they made preparations to raise her. Her machinery, when she was recovered, was found to be capable of rapid repair, whilst her hull was still sound. Having no shipwrights, the Southerners found here the material on which to base their designs.

A rough design was prepared on the model of Stevens' old ironclad by Commander Brooke. The entire upper works of the vessel were removed, where they had not been destroyed by fire, and she was cut down to the water line. Upon the hull was built amidships, a rectangular casemate, 170 feet long. The sides of this casemate were formed of 20 inches of pine, with 4 inches of oak upon it, inclined at an angle of thirty-five degrees. Outside this great thickness of timber two layers of iron plating,* each 2 inches thick, were fixed. This armour had been rolled from rails in the one foundry which Richmond possessed; the plates were 8 inches broad, and the inner course was laid horizontally, the outer

24 feet. The heights of the gun-deck ports above the water line are 9 feet forward and 12 feet aft. Her ports are 3 feet 8 inches long, and 8 feet 6 inches asunder. Her burden is 3197 tons. The ship is pierced for sixty guns, but at present carries only forty. On her upper deck she has two 10-inch pivot-guns of a new pattern, each weighing 107-cwt., and fourteen 8-inch shell guns—old pattern. On her main deck are twenty-four 9-inch guns of 83-cwt. . . . . Her greatest speed is said to have been seven knots an hour, and this was under favourable circumstances."—Sir H. Douglas, "Naval Gunnery," p. 279. She was built at Charleston in 1855.

* There are considerable discrepancies in the various accounts of her. The slope of her casemate is variously given as thirty-five and forty-five degrees; the thickness of her armour as $4\frac{1}{2}$ and 4 inches. The illustrations in "Battles and Leaders" differ a little—one making her armour project below the water-line, another representing it as flush with the side.

vertically, whilst the two courses were secured to the timber backing by bolts of $1\frac{3}{8}$ inches thick, which, running right through, were clinched on the inside. The roof of the casemate was formed by a grating which was 20 feet wide and 160 feet long. There were no masts, and but one funnel, which was not protected in any way. At the forward end of the casemate was situated the pilot house, a slight conical projection rising 3 feet above the deck, with 4 inches of armour upon it. The iron plating on the casemate sloped down some 2 feet under water, and projected slightly from the hull.

The ship had unarmoured ends of considerable length, 110 feet, out of a total length of 280 feet, being destitute of plating. Her stern was left very nearly flush with the water, but forward a light false bow of timber was built up to prevent the water banking upon the casemate. To the stem was fitted a cast-iron ram which projected 4 feet. The casemate, which was rounded at each end, was pierced with fourteen ports, the sills of which were 5 feet above the water-line. In the battery were ten guns; forward and aft two 7-inch rifled weapons mounted on pivots, so that they could be trained in the keel-line or on either beam; on each broadside one 6-inch rifled gun strengthened by steel bands shrunk upon the breech, and three 9-inch smooth-bore Dahlgren guns, which had come from the store of weapons taken at the capture of the Norfolk Yard.

The workmanship of the vessel was rough, but she was none the less a formidable craft, and was, in the absence of masts and rigging, and in her low freeboard fore and aft, a most daring departure from the accepted designs of ship builders. Above water she was invulnerable to all but the heaviest ordnance. The credit for the design belongs equally to Commander Brooke, who conceived the general idea, and Constructor Porter, who carried it out in detail. The difficulties to be faced were very great, for from lack of iron and suitable plant for rolling plates in the South there was considerable delay in obtaining the armour from the Richmond

works. Though she was begun in the summer of 1861 it was not till the commencement of March, 1862, that she was ready for sea. She was then manned with a crew of 300 men, who were picked from the Confederate army, in the absence of trained sailors, and were placed under the command of the able and energetic Captain Buchanan, a seceder from the United States' Navy. Her second officer was Lieutenant Jones, also trained in the United States' Navy.

Meantime in the North the need for armour-plated ships in naval warfare was acknowledged, though the Navy Board there showed far less discernment than the Southern Secretary. In August, three months after Mr. Mallory decided upon armour, an advertisement was issued at Washington, inviting designs for ironclad warships, and towards the end of that month Captain Ericsson, the great inventor, addressed a letter to President Lincoln, drawing his attention to an invulnerable ship, which he had projected. In September, by the most earnest and determined efforts, Ericsson succeeded in persuading the board to construct one vessel after his design.*

* Ericsson's letter to Navy Board. Sept. 3rd, 1861.

"In laying before you the accompanying plans and specifications of an impregnable battery, I feel called upon to make the following remarks:

"The wrought-iron ordnance of 12 inches calibre, planned by the writer already in 1840, practically established the fact that iron plates of 4½ inches thickness could not resist projectiles from such heavy guns. Previous to the experiments at Sandy Hook, which you will remember were made in 1841 with the ordnance alluded to, I had determined theoretically that 6 inches thickness would be required to protect ships against the same, and that iron plates without wooden support, unless made thicker, could not withstand continued firing. Accordingly the revolving turret of my proposed battery is made 8 inches thick, in addition to which the outward curvature of the turret will on dynamic considerations materially assist the resisting capability of the iron. Apart from the great strength of the turret, it should be borne in mind that but few balls will strike so accurately in the centre of the turret as not to glance off by angular contact. The United States may justly claim to have been far ahead of the naval powers of Europe, who have just found out what we demonstrated twenty years ago.

"In respect to the impregnable nature of the battery proposed, I need not enter on a demonstration before one so experienced as yourself. It will be all-sufficient merely to ask you to look carefully at the plan. It will, however, be

She was to be built entirely at his risk, since, if unsuccessful, she was not by the terms of the contract to be accepted, and all the money paid on account was to be refunded. She was to be completed in the unprecedentedly short time of one hundred days, for already the progress of the *Merrimac* was creating panic in the North. Immediately the contract was awarded, and before it was even signed, the keel plate of the vessel had been ordered by Ericsson, and had passed through the rollers of the mill.

The ship which was to be built, and which has since become so famous under the name *Monitor*, was even a more radical departure from the accepted designs of warships than the *Merrimac*. The following conditions logically dictated her plan. In the first place she was to be invulnerable, and this could only be secured by a great thickness of armour. In the second place her draught had necessarily to be light, as she would have to operate in the shoal water, which fringes the coast of the Southern States. In the third place she had to be quickly built, if she was to meet the *Merrimac* before the Confederate ship did any damage. It followed then that she must be small, and being small she could carry no very extensive battery. Hence the problem was to produce a ship which should carry few guns and yet possess an all-round fire. The manner in which Ericsson solved this problem shows his great genius as an engineer.

He decided to employ the turret to contain and shelter the guns. Thus an extremely small armoured structure would give perfect protection; the plating could be concentrated upon it instead of being distributed along a huge casemate; and as the turret revolved, the guns could cover a wide angle.

proper for me to advert to the fact that the ironclad vessels of France and England are utterly unable to resist elongated shot fired from the 12-inch guns of the battery. The 4½-inch plates of *La Gloire* or the *Warrior* would crumple like brown paper under the force of such projectiles, and at close quarters every shot would crush in the enemy's sides at the water-line. The opposing broadsides would be nothing more than the rattling of pebbles upon our cylindrical iron turret. . . . ."—Church, "Ericsson," i., 274-5.

The idea was no new one. Speaking of it himself the inventor states: "A house or turret turning on a pivot for protecting apparatus intended to throw warlike projectiles is an ancient device; I believe it was known among the Greeks. Thinking back I cannot fix any period of my life at which I did not know of its existence."* An inventor named Timby indeed had at this very period proposed a land battery, which consisted of a circular armoured structure, revolving upon a pivot, having several floors, and upon each a number of guns on slides; as the turret revolved the guns could be successively discharged at the target. This crude idea was, however, very different from Ericsson's finished structure, and cannot even claim to anticipate it, since Ericsson had some eight years before submitted a very similar design to the Emperor Napoleon, then at war with Russia. The Emperor examined it and returned it with a polite note, urging that the main objection to the vessel was the small number of guns which it could bring into action. Very shortly before the date on which he received Ericsson's design, he had embarked upon the construction of the five armoured batteries, which he employed in the Crimea.

In England Captain Coles had independently evolved the turret, and brought his designs before the United Service Institution in 1860,† though the form of turret which he proposed differed in many important respects from Ericsson's. But it was as yet only speculative, and only Denmark up to this date had had the courage to abandon the broadside system and adopt this novel protection for the warship's artillery. The credit of the innovation belongs almost entirely then to the United States' naval authorities, who had the good sense to see that there was a great deal in Ericsson's idea, and this though they still saddled him with the blame of the bursting of a novel 12-inch gun, and though

* Church's "Life of Ericsson," ii., 114.

† Journal United Service Institution, iv., 280 ff.

his "Caloric ship" had been a practical failure, if a theoretic success. They did not, however, pin their entire faith upon the *Monitor*, but also gave orders for the construction of a broadside ship, the *Ironsides*, which was generally similar in design to the *Merrimac*, but with this important difference that she had 4½-inch solid-rolled armour plate instead of two thicknesses of iron as the Southern ship. A third ship commenced was the *Galena*, which had bars of iron for her armour, and proved a complete failure.

The keel of the *Monitor* was laid October 25th, 1861, and she was launched January 30th, 1862, being completed for sea February 15th, and turned over to the Government four days later, or only 118 days from her commencement, a feat which at that date must be reckoned as extraordinary, though during the Crimean War the floating battery *Thunderbolt* had been built in England in three months. The *Monitor* was from turret to keel the product of Ericsson's brain, and was crammed with inventions of his own, which were created on the spur of the moment, but yet worked well in practice. She was a vessel of 776 tons old measurement, modern displacement 1000 tons; her extreme length was 172 feet; her breadth 41½ feet; and her draught of water only 10½ feet. One of the most noticeable features about her was the overhang of her sides, which projected some distance from her lower hull, so that viewed from below she presented the appearance of a ship-bottom fixed to a raft. Frequent complaints were made of the action of this overhang in a heavy sea, since when she came down heavily, it seemed as if the lower part of the hull would be torn away from the upper, so violently did the flat under surface of the overhang catch the water. Yet it does not appear that these complaints had any substantial foundation; they were due to the fact that the officers commanding the monitors were new to their craft, and did not thoroughly understand them or their behaviour.

The light draught and the absolute necessity of protecting the hull drove Ericsson to submerge it almost entirely, so that

when in trim for battle only 2 feet of the overhang emerged, and as this was plated with five 1-inch layers of iron it could not be seriously damaged by shot. The deck was protected by two ½-inch iron plates; the anchor and propeller were sheltered by the overhang which extended about 14 feet forward beyond the hull, and 32 feet aft. The anchor could be lowered, hanging as it did in a well forward, without a single man being exposed, and the Confederates were greatly puzzled to see the monitors steam up and moor themselves automatically, nor could they understand how it was done. In this system there was one great disadvantage; the anchor-well fatally weakened the bow, incapacitating it for ramming. The turret stood very nearly in the centre of the ship; it was 20 feet in diameter inside and 9 feet high, revolving on a central pivot which was supported upon the ship's bottom. It was protected by eight layers of 1-inch plate, and the roof was of rolled iron, with gratings to admit air, and sliding hatches. The guns in the turret were two 11-inch Dahlgren smooth-bores, firing projectiles of 135 to 166 lbs. weight with 15 lbs. of powder.* The vessel could, if necessary, have carried heavier weapons, but, as there were none in store, it was decided to employ the lighter guns which were ready to hand. Solid iron port-stoppers, hanging from the roof like pendulums, closed the portholes when the guns were run in. There were five projections from the deck, in addition to the turret. Forward in the centre line was the pilot-house, or conning-tower, projecting 4 feet, and formed of 9-inch logs of iron bolted through the corner. On the top was a flat 2-inch plate, which was left loose, so that it could be raised, if it was necessary to leave the ship. The pilot-house was square in shape and would hold three men with difficulty; the wheel was secured to one of the logs in front; and the sight-holes were five-eighths of an inch wider, affording a vertical view 80 feet high, at a distance of 200 yards. If Ericsson had

* For various details of U.S.N. smooth-bores, *see* Table I.

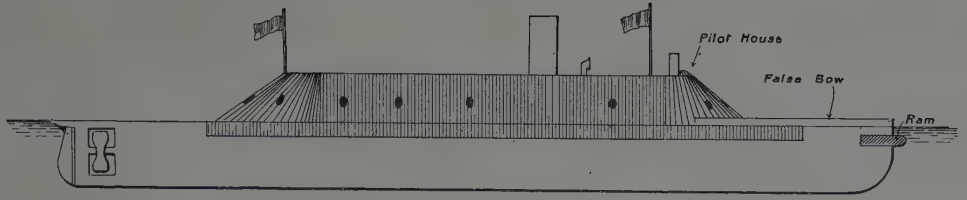


PLATE II.

ELEVATIONS OF MERRIMAC AND MONITOR.

been given sufficient time he would have placed the pilot-house on the top of the turret, as in the later vessels of this class, but he found it impossible to introduce this feature, with its many complications, within the limit of days fixed by the Government.

The other projections from the deck were the two small square smoke-stacks rising 6 feet above it, and removing for battle, and the two blower-holes 4½ feet above deck. The ventilation was entirely artificial—another striking innovation—air being forced into the ship and escaping through the turret, a system which had the merit of quickly removing smoke from it, but rendered the atmosphere in it unbearably close and offensive—charged as the draught was with all the gases of the boiler and engine-room.

This strange craft had many unfavourable critics. Even the chief of the Docks' Bureau,* Commodore Smith, seems to have had some apprehensions that she would prove a failure, though he was really responsible for the order. First of all, he was afraid that: "The concussion in the turret will be so great that men cannot remain in it and work the guns, after a few fires with shot." Ericsson reassured him upon this point from his own experience in Sweden, where he had seen heavy guns fired from small huts. A few days later the commodore writes: "I understand that computations have been made by expert naval architects of the displacement of your vessel, and the result arrived at is that she will not float with the load you propose to put upon her, and, if she could, she could not stand upright for want of stability, nor attain a speed of four knots. . . . I have had some misgiving as to her stability as well as sea-worthiness, on account of the abrupt termination of iron to the wooden vessel. I have thought the angle" (which the overhang made with the hull) "should be filled up with wood, to ease the motion of the vessel in

* He represented the Navy Department, supervising the construction of the *Monitor*.

rolling." He then reminds Ericsson that he is personally responsible for the ship, and had better make some changes to ensure her floating. The engineer reassured him, only to be next told: "A heavy sea one side of the battery will rise out of the water or the sea recede from it, and the wooden vessel underneath will strike the water with such force, when it comes down or rolls back, as to knock the people on board off their feet." The timorous gentleman returned to the attack a few days later with the comforting assurance, "The more I reflect upon your battery the more I am fearful of her efficiency." He dreaded now asphyxia for the crew: "Your plan of ventilation appears plausible, but sailors do not fancy living under water without breathing in sunshine occasionally. I propose a temporary house be constructed on deck, which will not increase the weight of the vessel more than eight or ten tons." The Press, too, attacked the vessel, styling it "Ericsson's Folly," and blamed the engineer for wasting the resources of the country in such straits. Admiral Porter was one of the very few who recognised the real value of the ship. "This is the strongest fighting vessel in the world," he wrote, "and can whip anything afloat."

Amidst a chorus of criticism the vessel was launched. On her trial trip neither steering gear nor engines worked properly, and, owing to the carelessness of an engineer, both gun-carriages were disabled temporarily. The rudder, which was of the balanced type, was found to have been misplaced through the error of a draughtsman, and the Navy Department wished to have a new one after their own heart fitted. Ericsson, however, refused to allow this alteration, which would have required a month's delay, and in less than three days put the steering-gear right. "The *Monitor* is MINE," he wrote, "and no change shall be made." He had designed the ship and all its parts—hull, turret, gun-carriages, engines and anchor-hoisting machinery, and put into it no less than forty patentable contrivances. No wonder he called it his.

The contract price of the ship was 275,000 dollars, to be paid in six instalments. The actual cost was 195,000 dollars, thus leaving a substantial profit. The turret was built at the Novelty Ironworks, and the hull at Rowland's Works. The Government was behindhand in all its payments, and when made they did not always represent the face value, so that the engineer was considerably embarrassed, and the construction of the vessel delayed. Indeed, a week after her engagement with the *Merrimac* had proved her sterling qualities as a fighting ship, 68,750 dollars were still owing. The time assigned by the contract for the completion of the vessel had been exceeded, owing to the slackness of the Navy Department, and Ericsson had very considerable difficulty in obtaining the payment of this balance.

This, then, was the situation during the winter of 1861-1862. Both sides were racing to complete their respective ironclads. The Northerners knew of the building of the *Merrimac*; they knew, too, that if the South obtained, even temporarily, the command of the sea, the game was up. The race was for no light stakes, but for the maintenance of the Union. The breathless anxiety of those days has passed into history, and has been forgotten; but, looking back after the lapse of more than thirty years, there should be no one of English race who does not rejoice that the North was not beaten in the competition, and that the great Republic, avoiding disruption, came safely through the stormy sea of war.

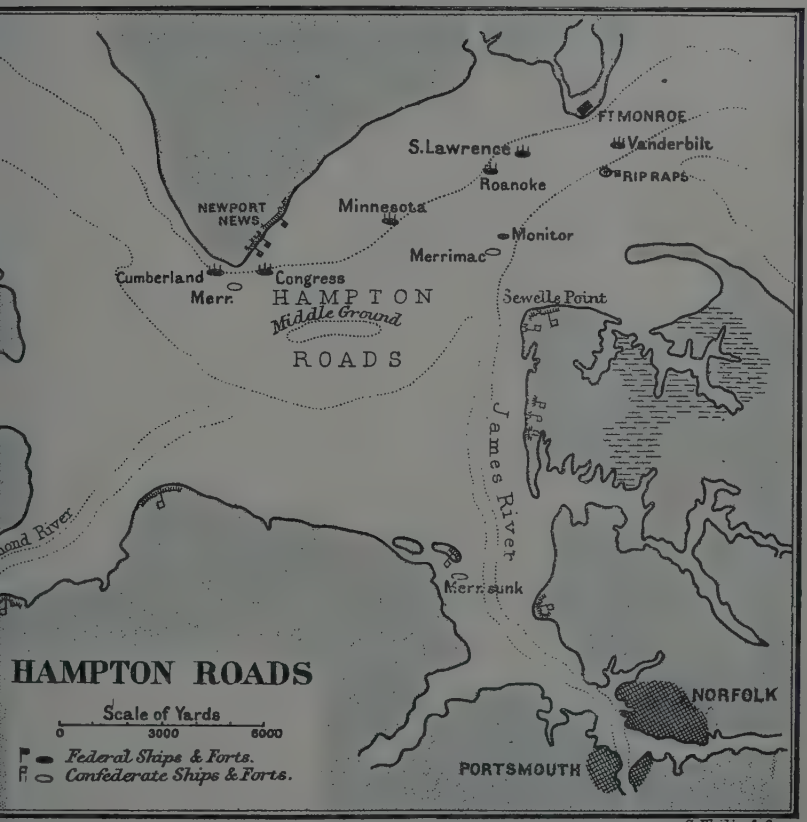
Ericsson's untiring efforts for his adopted country were rewarded by even the approval of his censor, who wrote to him, January 29th, as follows: "The *Merrimac* is out of dock, and ready for her trial trip. I think the wrought iron shot of the Ericsson battery will smash in her 2¼-inch plates, provided she can get near enough to her, while the 9-inch shot and shells of the *Merrimac* will not upset your turret. Let us have the test as soon as possible, for that ship will be a troublesome customer to our vessels in Hampton Roads." The name of

Monitor was given to the Northern vessel, at Ericsson's suggestion, that it might suggest doubts to the English Admiralty as to their wisdom in lavishing hundreds of thousands upon ironclad frigates, and that it might admonish the rebel leaders of the folly of imagining that they could bar their coasts to the United States' fleet. The ship, having been turned over to the Government, was commissioned by Lieutenant Worden with Lieutenant Greene as second in command, and Engineer Newton in charge of her machinery. She was manned by a picked crew of volunteers, since service on board her was regarded much as a forlorn hope. At first intended for the Gulf of Mexico, she was now ordered to steam for Hampton Roads, and left New York for that destination on the 6th March, under convoy of two steamers. She had scarcely left when fresh orders came to change her destination to Washington, but fortunately they came too late. The senior naval officer at Hampton Roads had been notified of this change, but upon the ship's arrival ventured to disobey, with the happiest results for the United States.

On Saturday, the 8th of March a formidable Federal squadron lay at anchor in Hampton Roads. Under the Newport News batteries were the two warships *Cumberland* and *Congress*; lower down, between Newport News and Fort Monroe, the *Minnesota*, a steam frigate, with her sister ship the *Roanoke*; and still lower, the *St. Lawrence*, a sailing frigate. All were of wood, all were unarmoured, and all were shortly to be proved obsolete. The *Minnesota* and *Roanoke* were of 4500 tons displacement, and had been identical in construction with the *Merrimac* as she was before her conversion.*

The morning was a splendid one, clear and warm. There was no sign of impending evil; the Northern officers in consequence of a purposely inserted article in a Richmond paper were already beginning to disbelieve in the fighting

* The *St. Lawrence* carried fifty guns; the *Cumberland*, thirty; and the *Congress*, fifty. All three were sailing vessels. The *Minnesota* and *Roanoke*, each of forty-six guns, were steamers.


FT MONROE
S.Lawrence
Vanderbilt
Roanoke
RIP RAPS
NEWPORT NEWS
Minnesota
Monitor
Merrimac
Cumberland
Congress
Merr.
HAMPTON
Middle Ground
ROADS
Sewells Point
James River
Merrimack
HAMPTON ROADS
Scale of Yards
0
3000
6000
Federal Ships & Forts.
Confederate Ships & Forts.
NORFOLK
PORTSMOUTH

G. Philip & Son.

qualities of the *Merrimac*; and the ships lay with clothes drying in the rigging and boats at the booms. All were hoping to be speedily relieved of the weary tedium of the blockade. One bell had struck some little time when the quarter-master of the *Congress* observed smoke rising from the woods which fringed the Norfolk estuary. After watching it for some moments he turned to the officer on deck and said "I believe *that thing* is coming down at last, sir."

That morning the *Merrimac* had put out from Norfolk on her trial trip. Her officers and men had received Communion for to them also it seemed that they were going on a desperate errand. The crew were untrained; the engines were hopelessly defective, and could not be relied on for more than six hours at a stretch, whilst at their best they could only just move the vessel along; the steering gear was unprotected and very inadequate, so that it took the ship thirty-five minutes to turn; not one of her guns had ever been fired; and to the last minute a crowd of artificers and mechanics were at work on board getting her ready. The ship itself was an entire innovation, and Captain Buchanan was out of health. Small wonder then that there was little confidence in the crew, though the Southerners generally had high hopes of her, and waited anxiously to hear of her achievements.

She was attended by a cheering crowd upon steamers, and by the small gunboats *Yorktown*,* *Jamestown*, *Beaufort*, *Raleigh*, and *Teaser*, mounting between them seventeen guns. As she reached Sewell's Point she was cheered by the Confederate gunners in the batteries there, and, turning westward, chose the southern of the two channels, which would bring her to the *Cumberland*. The Northern ships beat to quarters and prepared for action, sending the *Zouave*, a small gunboat, to reconnoitre. This little vessel attacked 'the roof of a barn with a huge chimney," by firing at it her 32-pounder rifled gun, but quickly found that she could do no damage whatever and

* Also known as the *Patrick Henry*.

retired. The *Merrimac* took no notice, but went steadily on. Soon after one o'clock she was fired upon by the *Cumberland*, and shortly after by the *Congress* and the shore batteries. The projectiles, however, did her no harm, and the Unionist officers were petrified with astonishment when they saw them glance off her armoured hull like so many peas.

More than an hour passed before this fire was returned. At last the bow port-shutter on the ironclad was raised, and the *Cumberland's* men saw the 7-inch rifled gun protrude. There came a flash, and the violent explosion of a shell killed or wounded most of the crew of the *Cumberland's* after pivot-gun. The *Merrimac* then passed the *Congress* at a distance of two hundred yards, giving and receiving a broadside. On the *Congress* the slaughter was horrible. Few were wounded, as the shells killed most of the men outright. "Our clean and handsome deck," says one of her officers, "was in an instant changed into a slaughter-pen, with lopped-off legs and arms, and bleeding, blackened bodies scattered about by the shells, while blood and brains actually dripped from the beams." The quarter-master, who had discovered her approach, had both his legs taken off, and died in a few minutes, entreating the crew to stand firm till the last. As their terrible opponent passed up stream to assail the *Cumberland*, the men of the *Congress*, believing that she was retreating, raised a tremendous cheer. But they were yet to suffer even more cruelly.

Leaving the *Congress* on her starboard quarter, the *Merrimac* now headed straight for the *Cumberland*. Buchanan was resolved to use the ram for the first time in modern history, and before him the great sailing ship lay helpless. On he came, whilst the sloop poured in her poor, ineffectual fire, her men being determined to fight to the death. At last his iron ram struck the *Cumberland* in the starboard fore-channels, and the shock sent the ship heeling over, though it was scarcely felt on board the *Merrimac*, which reversed her engines as she dealt the

blow.* Then, backing out, but with the loss of her ill-attached ram, she left a huge gap in the Northern vessel's side, and, after discharging her bow-chaser, demanded the surrender of the doomed ship. It was then that Lieutenant Morris answered, "Never! I'll sink alongside"; and, following this refusal, the slowly-settling *Cumberland* was cannonaded for more than half an hour by the Southern flotilla. Yet there was still no word of surrender, and, with the dauntless heroism of their race, the American sailors fought steadfastly to the end, ever firing upon the impregnable hull which assailed them, their own decks strewn with dead and dying, the water constantly mounting, the red flag of "no quarter" flying at their fore.

This great deed of arms, this unflinching refusal to yield to defeat, may well recall the fiction of the *Vengeur*, and Du Chailla's great words, "*Tirez, tirez toujours; c'est le dernier coup qui peut-être nous rendra victorieux.*" But the *Vengeur's* men had to fight ships of their own class and kind, and here the *Cumberland* was faced by an opponent which she could scarcely hope to harm. It might have seemed wiser to surrender. The loss of many lives might have been thereby averted, and yet it is well to remember that these lives were not given in vain. There is an inheritance of heroic example which is necessary to a nation's life; death and defeat, if they are confronted with greatness of soul, raise the spirit of a people. The Northerners were facing the South in a life and death struggle; they were yet to suffer many defeats, there were yet to be times when victory seemed hopeless. But the thought that these brave men had so nobly met their end, not bowing to calamity but confronting it unappalled, fired the Navy and raised the temper of the nation. National character is a more sacred thing than even human life. So, when the *Cumberland's* last gun was fired, half buried in the water, the people

* This happened shortly before 2.50 p.m.

of the United States might know that no odds, however great, would overcome the tenacity of their sailors, if led by men who knew how to inspire them; and the people of the Confederacy might well have felt that the victory could never be theirs.

Moreover it is on record that the fire poured in upon the *Merrimac*, though seemingly at the time so resultless, considerably weakened the ironclad for her encounter with the *Monitor*. She now, with a slight leak forward caused by her ramming, turned upon the *Congress*, which was to rival the *Cumberland* in her resistance. The *Congress* was commanded by a son of that Commodore Smith of whom mention has been made above; he was a man of a determination and spirit that would not brook surrender. When his father, on that Black Sunday at Washington, was told that the *Congress* had surrendered, his first words were "Then Joe's dead. He'll never surrender his ship." It was so; the young man died early in the action, struck in the chest by a shell fragment.

The *Congress*, on seeing the fate of the *Cumberland*, had set her topsails and jib, and, assisted by the *Zouave*, had made for the shoal water off Newport News. Here she ran aground, but if she was unable to move, her opponent could not approach her closely enough to ram. The *Merrimac* came as near as she could, and, at a distance of 150 yards, occupied a position whence she could rake the Northern ship with her entire broadside, whilst the *Congress* could only bring two guns to bear. Worst of all, the *Minnesota*, *Roanoke*, and *St. Lawrence*, which were coming up to her assistance, had also grounded, a circumstance which perhaps saved them from destruction.

And now the bloody work recommenced. The shells of the ironclad swept the *Congress*, quickly disabling her stern chasers and searching the ship. Just before the last of the stern guns was rendered useless, the powder ran short, and, finding none was sent up, the officer in charge went to

discover the reason. "After my eyes had become a little accustomed to the darkness," he writes, "and the sharp smoke from burning oak, I saw that the line of cooks and wardroom servants stationed to pass full boxes had been raked by a shell, and every one of them either killed or wounded." The decks had to be constantly sluiced with water to prevent fire, even in the cockpit, and the icy coldness of the water added another to the terrible sufferings of the wounded who were lying there. The bulkheads had been knocked away to allow passage for the hoses, and the scene inside the ship was one of indescribable confusion. For an hour the *Congress* endured the fire of the *Merrimac* and the four gunboats*; the ship was now on fire in more than one place; the crew, or such of them as remained, could not be kept busy at the guns, for no guns bore; there was nothing left but surrender. Accordingly the flag was lowered. At once officers came on board from the *Merrimac* and the gunboats, and ordered the crew of the beaten ship to withdraw that she might be fired. The shore batteries, however, had noticed the near approach of the Confederate vessels without guessing the explanation, and instantly poured in upon them a furious fire of cannon and musketry, wounding Buchanan and several Confederate officers. On this they drew off to a distance and resumed their fire upon the *Congress*, which was now well alight, whilst her crew made the best of their way to the shore.

The *Merrimac* had settled two of the Northern fleet; seeing the *Congress* on fire, she turned to the *Minnesota*, which was the next ship, and lay hard and fast aground. But two hours of daylight remained; the tide was ebbing strongly; and the ironclad, finding that she could not venture in the northern channel, which would have brought her close to her enemy, had to take the southern one, when nearly a mile parted the opponents. The gunboats, however, went

* *Yorktown*, *Beaufort*, *Raleigh*, and *Jamestown*. The *Teaser* was exchanging shots with the batteries on land.

nearer, choosing a position for their attack, in which the *Minnesota* could only bring one heavy gun to bear; but, supported by her smaller consorts, she drove them off, without any serious damage after an hour's fighting. The *St. Lawrence*, which had succeeded in getting off the shoals, was now seen approaching, and had indeed exchanged shots with the *Merrimac*, when the latter, in the falling twilight, at last withdrew. As her pilot could not have answered longer for her safety, and as she was the sole hope of the South, it was deemed unwise to risk her loss. She could easily complete her work on the morrow.

All through the night the waters of Hampton Roads were illuminated by the burning *Congress*. The magazine exploded soon after two o'clock, but this did not end the conflagration, and the hull was still blazing when the sun rose. In the day's fighting the Northerners had lost 250 killed or drowned, and probably an even larger number of wounded. Two ships had been destroyed. On the other side the *Merrimac* had started a slight leak; every projection outside her armour had been shot away; but her armour had kept out every projectile, and only two men were killed and eight wounded. Thirteen men had been killed or wounded upon the gunboats.

The effect of this terrible defeat upon the North was stunning. In a moment their splendid frigates had been proved useless; there was nothing between the ironclad and New York but the little *Monitor*, now some days at sea. On the Sunday after the battle, a Cabinet meeting was convened by Lincoln, speaking at which Mr. Stanton gave expression to the general feeling of dismay: "The *Merrimac* will change the whole course of the war; she will destroy *seriatim* every naval vessel; she will lay all the cities on the seaboard under contribution. I shall immediately recall Burnside; Port Royal must be abandoned. I will notify the governors and municipal authorities in the North to take instant measures to protect their harbours. I have no doubt that the enemy is

at this minute on her way to Washington, and it is not unlikely that we shall have a shell or a cannon ball from one of her guns in the White House before we leave the room." Lincoln himself was much depressed, but did not share these extravagant apprehensions. It was proposed to sink the *St. Lawrence* across the channel of the Potomac, so as to obstruct it, and entanglements to catch the *Merrimac's* propeller were suggested.

The South went wild with joy. At every station on his way to Richmond the bearer of the great news was surrounded by great crowds, who pressed about him, and insisted upon being told the story of the fight. The hopes of the Confederates were as high as the despondency of the North was deep. Both sides instinctively recognised the supreme value at this critical moment of sea power.

Yet it cannot be denied that the fears of the North have since been proved to have been excessive. The *Merrimac* was no sea-going ship: with her port-holes less than six feet above the water-line she could not have been fought in a seaway; her damaged engines, which in calm water could only just move the ship, could never have withstood the strains of a storm; and her untrained crew must have handicapped her terribly in an encounter on open waters.* Moreover, the Southerners wanted her to guard the water approach to Richmond, and as she could not at one and the same time watch Hampton Roads and shell New York or Washington, the latter cities were safe. But had she, even for a few days, driven off the blockading squadron, stores and munitions might have been freely imported into the Southern States, and not improbably the war would have been greatly prolonged.

* Vide Confederate Report in Church's "Ericsson," vol. i., 299-300. "Possibly we might have taken the *Virginia* as far as Harrison's Bar, but such action would have been absurd from every point of view. As the enemy occupied both sides of the river above we could neither coal nor provision her, and would have been compelled to destroy her if she remained so long uncaptured. . . . She was not weatherly enough to move in Hampton Roads at all times with safety."

The *Merrimac* had everything in her favour when she assailed these wooden ships. The *Cumberland* was a sailing vessel unable to avoid the impact of the ram; stationary, so that she inflicted no wrench upon her opponent's bow; armed with guns which could not penetrate the *Merrimac's* armour. This battle, and the Austrian success at Lissa, led men to attach a singular value to the ram, which has been somewhat discounted in later years. Mr. Laird Clowes in a careful paper* has shown that of the many attempts at ramming, few have had any result; to attack a vessel under steam in open water with the ram is an extremely difficult operation, and one which, if the speed on either side be at all high, would imperil the assailant very nearly as much as the assailed. If a near approach is made to a hostile ship, the danger of torpedoes has to be faced; yet an inferior ship, with a determined captain might thus destroy a hostile vessel. Though artillery has developed greatly, and taken to its aid high explosives, it still remains doubtful whether its use alone would sink a well-constructed modern battleship. The ram does its work so quickly, the moral effect of the sudden loss of a ship is so overwhelming, that it might be wise to employ it even early in the engagement. The cruiser is here at a great disadvantage, since her bows are so weak that, in the words of a recent writer upon naval tactics, it would be dangerous for her to charge anything stouter than a jelly-fish.† Special vessels for ramming have been constructed both in England and America, but it cannot be said that they meet with the general approval of naval men. The question awaits a solution, which can only be given by a pitched battle fought between two powerful fleets.

At nine o'clock on the night of the *Merrimac's* first engagement a strange craft, which has been compared to "a cheese-box on a raft," steamed into Hampton Roads. She found the

* Journal United Service Institution, 1894. *See* also ii., 159.

† "Captain of a Battleship." Engineering, October 26th, 1894.

Congress still burning fiercely, and heard the boom of her guns and the roar of the explosion of her magazines. The *Monitor* had had a terrible passage from New York. Manned by a crew who were strange to her, and who did not know their ship, this little vessel, intended solely for service in smooth water, and with a speed which did not exceed six knots, had faced the Atlantic. She was in tow of the *Seth Low* and convoyed by two gunboats. Her first day out was fine, but on the second day the wind freshened, and the sea rose, washing right over her low deck. The hatches leaked; water poured down the funnels and blower holes, and streamed in through the hawse hole in the anchor-well, which, through oversight or ignorance, had not been made quite watertight. A veritable waterfall descended under the turret; instead of revolving upon a roller-way, its entire weight was supported and motion was imparted to it by a central spindle. When the ship was out of action, the lower edge of the turret rested upon a gun-metal ring let into the upper deck. In this position there would be no leakage, but the naval authorities had seen fit to key the turret up and pack oakum between its lower surface and this ring.

The oakum was soon washed away, and the sea poured in through the extensive leak. Meantime the water, descending the funnel, had filled the engine room with deadly fumes, and driven out all the complement. Two engineers, who endeavoured to enter it that they might check the inrush of water, were taken out senseless; the blower belts, which were likewise drenched, slipped, and all ventilation ceased; the fires fell rapidly, deprived of their draught, and soon there was not enough steam left to work the powerful pumps with which the ship was provided. Recourse was had to the hand-pumps, but they were not strong enough to force the water to the top of the turret, which was the only opening that could be used in bad weather. In consequence the buckets had to be passed from hand to hand, thus removing a minimum of water in a maximum of time. From the anchor well came

the most terrible and heart-rending screams and wails, and, as seamen are notoriously the most superstitious of mankind, this tended in no small degree to depress and discourage them. These screams, it seems, were caused by the compression of the air in the confined space, as the vessel pitched and rolled; but, as this explanation was not then patent, resembling, as they did "the death groans of twenty men," they may well have terrified the crew. The storm, however, abated towards evening and the crew were enabled to clear the ship of water; but about midnight, with a rougher sea, their troubles recurred, and upon them all this further complication that the steering-gear broke down.

By Saturday morning the *Monitor* was once more in smooth water, making good her defects; and at four o'clock in the afternoon her crew heard a great way off the noise of heavy guns, which told them that there was fighting in Hampton Roads. Some time later they learned from the pilot, who met them, what had happened. Instantly preparations were made for action, the deck was cleared and the turret keyed up, though it was found that the machinery for revolving it had been rusted by the seawater and worked very badly. In spite of every possible exertion, it was not till nine o'clock, or some time after the *Merrimac's* withdrawal that Fort Monroe was reached.

The crew were wearied by their desperate struggle with the elements, and worn out by confinement in a vessel, the ventilation of which had broken down, and where the only safe place was the turret top. Yet the *Monitor* had behaved very well; she had proved herself a steady craft, and the serious leakage was not wholly her designer's fault. The crew had borne themselves like gallant men, and had shown that they were of excellent spirit. Lieutenant Worden saw Captain Marston of the *Roanoke*, who had received orders to send the *Monitor* to Washington; these orders Marston wisely disobeyed, directing her to remain in the Roads, and sending on board a pilot, who took her up to the *Minnesota*, where she anchored and waited for day.

In the meanwhile, at Norfolk, the *Merrimac* was being overhauled. Her untrustworthy engines were botched; the gap where her ram had been was covered with planking; her steering gear was examined; and about daybreak she started for Hampton Roads to complete her work. As day dawned she saw the "tin can on a shingle" that was destined to checkmate her endeavours.

The depression in the Union forces was great. The crews of the ships, which lay in the Roads, had seen in a few hours two splendid ships destroyed without, apparently, the faintest harm to their enemy. They knew that their turn was to come next. The *Minnesota* was helpless on the shoals, and what could save her from the *Congress*' fate, when the full tide enabled the *Merrimac* to approach? Beside the *Minnesota* lay this outlandish, untried *Monitor*, a vessel which the navy generally viewed with the utmost contempt, which had scarcely survived the perils of the sea, and could hardly be supposed able to confront the powerful ironclad *Merrimac*. The crew of the little ship were exhausted; her engineer lay ill in his bunk; the captain was worn out by the harassing struggle with the water. Seldom had a vessel such heavy odds against her. As he saw his opponent, Worden raised anchor and headed for the *Merrimac*.

The Confederates had caught sight of her by the light of the burning *Congress* during the night. Lieutenant Jones commanded in place of the wounded Buchanan; he had fought as second in command in the action of the previous day, and was an able and energetic officer, who had had considerable experience in the old United States' Navy. He saw in the puny Northern ship his true antagonist, and realised that till she was destroyed he could not have his way with the Union unarmoured ships, or clear the road to Washington. A new obstacle was interposed, and this obstacle he must encounter and surmount.

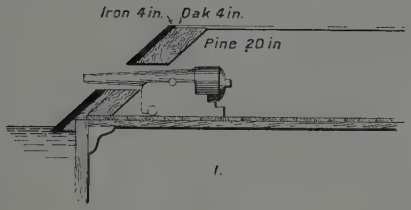
As the *Merrimac* came down like Goliath to conquer David, she exchanged fire with the *Minnesota*, but a moment later

was assailed by the *Monitor*. In the pilot-house of the latter vessel was Lieutenant Worden with the quarter-master and pilot. In charge of the turret were Lieutenant Greene and Engineer Stimers with sixteen men handling the guns and the machinery for revolving the turret. The day was sunny and bright, and crowds of spectators of both sides covered the shores and watched eagerly to see the issue of the fighting: the Confederates, knowing that if they could destroy the Union squadron the sea-board was open to them; the Federals realising that their only hope was in the *Monitor*.

At 8.30 the *Merrimac* opened the battle, discharging her 7-inch rifled bow-chaser at the *Monitor*; the target was very small, and she failed to score a hit. The *Monitor's* time was come; she steamed close up to her great antagonist, and replied with her two 11-inch 170lb. shot, fired point blank. The shot glanced off the sloping sides of the *Merrimac* quite harmlessly, which may be explained by the fact that the charge of powder was only 15lbs., whereas it was afterwards discovered that the Dahlgren 11-inch gun would safely fire double that weight, and further by the fact that Lieutenant Greene gave the guns a slight elevation, instead of depressing them so as to strike the sides of *Merrimac* at a right angle. As the *Monitor* discharged her two guns, the *Merrimac* brought her starboard battery to bear, and shot after shot struck the *Monitor's* turret. The concussion was severe, but had no evil effects upon the men or the turret. Those who had predicted that everyone in the structure would be stunned or killed were seen to be entirely in the wrong. The confidence of the crew rose at once.

No damage having been done on either side, the ships reloaded and closed again. The *Monitor* was firing solid shot, though of cast instead of wrought iron,* and in consequence

* Wrought iron shot had been supplied, but in the hurry they had not been properly gauged, and therefore could not be used, from the danger of their jamming in the guns. The concussion of the *Monitor's* shot on the *Merrimac's* sides made the latter's men bleed from the nose and ears.



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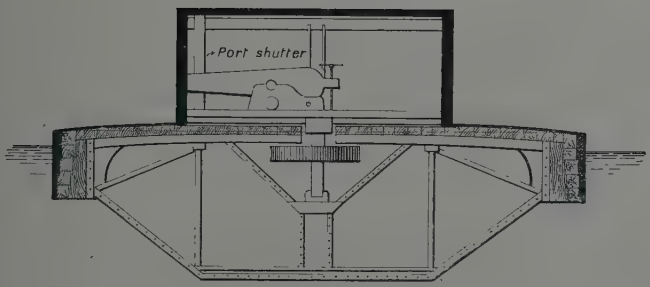

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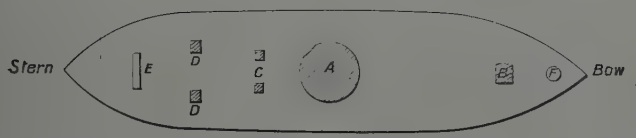


3

1. Casemate armour of Merrimac
2. Latitudinal section of Monitor
3. Deck-plan of Monitor
   A Turret B Pilot House C Funnels
   DD Blower holes E Propeller Well
   F Anchor Well

they broke up on impact. The *Merrimac* on her part had come out without solid shot, equipped simply with shell and grape for the destruction of the wooden ships; had she possessed solid projectiles for her 7-inch rifles she might have driven them through the *Monitor's* turret. As it was, a vigorous, but resultless cannonade was exchanged, each ship firing as fast as she could, the *Monitor* once every seven minutes, and the *Merrimac* every fifteen. On board the latter ship, however, the fire was slowed, when it was found that no effect was produced. Lieutenant Jones coming down from the deck, and finding a gun detachment standing at ease, asked why they were not firing. He was told that powder was precious, and after two hours continuous firing as much damage could be done by snapping the fingers as by discharging the guns. One immense advantage the *Monitor* possessed, she was superior in speed and manœuvring power; besides this her revolving turret enabled her to bring her guns to bear in all directions, whilst the ports in the *Merrimac* being very small, the latter ship found some difficulty in laying her guns upon her opponent.

In the *Monitor's* turret great difficulty was experienced in working the revolving engine. It was hard to start it, and still harder to stop it when started. Marks had been made upon the floor under the turret, to show the starboard and port side of the vessel; but, by the grime of the smoke, they were very quickly obliterated. A very scanty view could be obtained from the turret, as there were no sight-holes but the gun-ports. These were very small, and nearly closed by the guns when run out, whilst, when the guns were run in, they were sealed by the port-stoppers. The *Merrimac* directed a steady musketry fire upon them whenever they came into view, but, to prevent a shell entering, or striking and jamming the stoppers, the turret was always revolved after a discharge till the ports were away from the enemy. Had the gun crews been killed or disabled there was no one to take their place, as there were only just

sufficient men on board to fight the ship. The speaking-tube to the pilot-house had been broken early in the engagement, and orders had to be passed along by word to the turret, one of the chain of men told off for this duty being a landsman who misunderstood and confused the technical terms. The crew of the turret, ignorant of the direction in which their adversary lay—for in a revolving turret or barbette all power of orientation is quickly lost—had to fire on the fly. The turret was set in motion, and, as soon as the enemy came in sight, the guns were quickly discharged in succession. Great care had to be taken not to fire into the ship's pilot-house or near it, since, when the guns were discharged forward, even at an angle of thirty degrees with the keel-line, the blast, impinging upon the pilot-house, injured the officers in it, and half-a-dozen shots near it were enough to render men there insensible. Aft, the guns could not be fired at an angle of less than fifty degrees, as the concussion would have affected the boilers, which were very near to the deck. In the turret itself, the concussion caused by the firing had no serious effects upon the men, as had been prophesied; but anyone standing close to the side, or leaning against it when the hostile projectiles struck it, was more or less severely injured. Acting Master Stodder was thus leaning against the turret when a shot struck, and he was stunned by the blow, whilst two other men met with similar casualties. All three, however, recovered speedily, as no vital injury was inflicted.

After this resultless firing had continued for some time, Worden determined to use his ram. Accordingly he made a dash at the *Merrimac's* propeller, hoping to strike and disable it, but missed it by only two feet. The two ships grazed, and, at this moment, the 11-inch guns, almost in contact with the foe's hull, were discharged, crushing in the iron, but failing to perforate the casemate. Lieutenant Jones was of the opinion that, had another shot been fired at the same place, it must have penetrated, but the skill of the *Monitor's*

gunners was not sufficient to effect this. Seeing the ease with which the *Monitor* manœuvred, and finding that the speed of his own ship was falling, owing to the loss of her smoke-stack, which had been destroyed in the encounter of the previous day, Jones now determined to leave the *Monitor*, and to attack and destroy the *Minnesota*. He had reckoned without his pilot. This man was in mortal terror of the Union frigate's powerful broadside, and, instead of taking his ship up to her, ran her aground. Here she stuck for some little time, the *Monitor* all the while circling round and round her, and looking for a weak place to ram. But either her commander was afraid to risk the *Monitor*—and we know that the bows were weakened by the anchor-well —or else he handled her very badly, since the *Merrimac*, which was now again afloat, eluded her blows. No very serious damage was done to the *Minnesota*; one shell exploded on board her, and caused a fire, which was speedily extinguished; and one burst in the boiler of the tug *Dragon*, which lay alongside.

The *Merrimac*, finding that she was not to be allowed to sink the unarmoured ships at her leisure, once more turned upon the *Monitor*. This time Jones had resolved to run the Northern vessel down, by driving his stem over her deck. He ran at her with all the speed which his shaky engines could muster, and struck her, the force of the blow throwing the *Merrimac's* men to the ground bleeding from the nose. Boarders were called for, as the two ships remained for some moments locked, but before they could get on to the *Monitor*, she glided away from under the *Merrimac's* ram, "as a floating door would slip away from under the cutwater of a barge." When the two collided, one of the *Monitor's* 11-inch guns was fired at the casemate, once more crushing in the iron.

No injury was done to either ship by this attempt to ram. The *Merrimac's* speed was exceedingly low, and this is probably the explanation of her failure to sink the *Monitor;*

had she gone into her at fifteen knots there would have been another tale to tell.* As it was, the *Monitor's* sharp upper edge cut through the light iron shoe upon the *Merrimac's* prow, deep into the oak, which was behind it. On the *Monitor* all that could be found was a slight dent.

The ammunition in the *Monitor's* turret was now failing. To replenish it was a matter of some difficulty, as it required the scuttle in the floor of the turret to be brought immediately over a second opening in the deck below, and kept there, whilst the projectiles and powder were being hoisted up. Worden accordingly hauled off to the Middle Ground, where the water was too shallow for the *Merrimac* to follow him, and lay there for fifteen minutes, till he was ready to recommence battle. Among the Confederates and on board the *Merrimac* the impression was that the Northern ironclad had been disabled. Why they did not use this respite for the destruction of the *Minnesota* is not clear, but they did not; and they were disagreeably surprised to see the turret-ship once more making for them.

In this, the last stage of the battle, the *Merrimac's* gunners adopted tactics which, if tried before, might have given them victory; they concentrated their fire upon the pilot-house, which was the *Monitor's* weak point. At half-past eleven, as Worden was at one of the sight-holes, a shell struck it, and burst just outside, driving in one of the iron logs of which it was built, raising the top, and filling Worden's eyes with fragments of iron and powder. Blinded and bleeding he fell back, and, imagining that the structure was demolished, ordered his ship to sheer off. For some minutes the *Monitor* drifted helpless, her commander disabled. Then Lieutenant Greene came forward from the turret, and found Worden at the foot of the short ladder which led to the pilot-house, with the blood pouring from his face, and under the impression that he had received a mortal wound. He

* Her speed did not, probably, exceed five knots at this period of the fight, if, indeed, it was so much, as she had lost her funnel.

was assisted to his cabin, but in the agony of his wound did not forget to ask how the battle went, and whether the *Minnesota* was saved. When told she was, he said, "Then I can die happy." Fortunately he afterwards recovered, and was able to take part in many of the later operations of the war.

For twenty minutes the *Monitor* drifted in shoal water, and then under the guidance of Greene went once more to seek her antagonist. But the *Merrimac*, seeing that she could not follow her on the shallows, was already in retreat, though the Southerners stated that she waited an hour for the battle to be renewed. Greene did not pursue closely, probably because he feared to imperil his ship, and merely discharged a shot or two at the retreating ironclad.

The battle was seemingly a drawn one, for neither ship had inflicted any serious harm on the other, and neither had lost a single man. Had the *Monitor* concentrated her fire upon one particular part of the *Merrimac*'s casemate, had the *Merrimac* poured hers upon the *Monitor's* pilot house all through the engagement, the result must have been more decisive. Again, had the Confederate ship possessed and employed solid shot, or the *Monitor* 30lbs. or 50lbs. charges of powder for her guns* the effect of the continuous firing would have been far more destructive. The *Merrimac's* crew of landsmen seems to have fought well; their gunnery was very fair, and no great fault can be found with them, while the *Monitor's* seamen, if not severely tried in the battle, gave good proof of their endurance. The attempt to destroy the Union fleet was completely frustrated; henceforward the wooden ships felt that they were safe; Washington and the towns on the Northern seaboard were relieved from all fear of attack, the blockade was maintained, and the fact demonstrated to the South that the engineering talent of the North would outmatch any ironclad vessels which it built.

* That weight of powder was afterwards used in these guns.

It was the opinion of Jones, and the other Confederate officers, that the *Monitor* should have easily sunk the *Merrimac*. Why she did not is hard to explain, except upon the supposition, which does not appear to be supported by any evidence, that Worden and Greene had received orders to be very tender with their ship. With a higher speed, and manœuvring better than the *Merrimac*, she should have been able to ram her, and disable her steering-gear, if ramming is a possibility, but she only seems to have made one very half hearted attempt to do this. She was struck twenty-two times in the action, nine times on her turret and twice on her pilot-house, but received no damage beyond slight indentations. She fired forty-one shots. The *Merrimac*, as a result of the fighting of the 8th and 9th had ninety-seven indentations in her armour; both courses of plating were shattered, but the backing was uninjured where hits had been made by the *Monitor* at an angle; where the shots had struck perpendicularly the backing also was broken and splintered, though it was not perforated.

The first encounter between ironclads is not only in itself noteworthy as one of the decisive battles of the Civil War, definitely and finally securing to the North the command of the sea, but it produced an instant and tremendous effect in Europe and in England. The deepest misgivings as to the value of our broadside ironclads were at once aroused. Ericsson had somewhat boastingly predicted that his little vessels could overcome with ease the English ironclads of that era, and his predictions were too readily taken for fact. The *Warrior* with her $4\frac{1}{2}$ inch solid rolled plates, and her speed of fourteen knots would been a very different antagonist to the *Merrimac;* she could have chosen her own distance, and moreover, being a sea-going ship, could have fought in a sea-way, which no *Monitor* could do. The truth is that the requirements of our Navy are very different from those of other countries: others may be content to use their ships on their own coasts, but we never. Our ironclads must be sea-

PLATE IV.

H.M. BATTLESHIP NILE.

See ii., 233.

keeping, be the loss of invulnerability what it may. The *Monitor* was no type for our fleet, and time, which brings many revenges, has demonstrated the foresight of our Admiralty and the ability of our designers in the universal adoption of a high freeboard. The *Warrior* is still one of our effective ships; the *Monitor* would have long ago been gathered to the scrap-heap, had she survived the sea.

The turret system of mounting guns is one of the legacies of this fight to the world, but as adopted, it was Captain Coles' turret with roller bearings, and not Ericsson's with a central spindle.* It has now been accepted universally for heavy guns, whether in the form of a turret or barbette, giving as it does a wide angle of fire with the minimum of armour, and the maximum of protection to the gun-crews and mechanism for loading. The *Royal Sovereign* of 1864 was the first English turret ship due to the influence of this sea fight, and she has a numerous progeny in our *Devastations*, our *Niles*, and our *Majestics*.

The bloodlessness of an encounter which had so wide and far reaching an effect may well surprise us, but in those days artillery was in its infancy, and rifled ordnance a somewhat distrusted novelty. The guns on either side failed to penetrate, nor can we be startled at this. But the energy exerted

* The turret has been claimed both by English and American writers as the discovery of Ericsson, and Coles has been stigmatised as a plagiarist. It is only due then to the memory of an able and distinguished officer to say that Coles could not possibly have seen or known of Ericsson's first design when he brought his cupola ship before the United Service Institution in 1860. He had already, in 1854, constructed a domed turret which was fired on a raft, and carried one 68-pounder. His *Royal Sovereign* was the successor of the *Rolf Krake*, an iron double-turreted monitor, with lowering bulwarks, which was ordered by the Danish Government in 1861. In 1864, she engaged the Prussian batteries at Eckernsünde, which mounted the 24-pounder rifled Krupp, and though hit 150 times was none the worse. The turret-ships *Scorpion* and *Wivern*, which were built in England for the Confederate Government, and seized and purchased in 1864 by the British Government, were also on Coles' pattern. These three ships had solid $4\frac{1}{2}$-inch plating on their turrets, and were a great improvement upon Ericsson's *Monitor*. The *Huascar*, built for Peru in 1865, carried one of Coles' turrets, and is afloat to this day.

by the projectile has risen from 1850 foot tons in the 7-inch rifle to 35,230 foot tons in the 68-ton gun, which is the standard heavy weapon of our fleet. Armour has, indeed, increased in thickness from 4½ inches to 18 inches and 20 inches of greatly improved quality, whilst latterly the Harvey process has given an increase of fifty per cent. to its resisting power as compared with the wrought iron of 1862, thereby ensuring in a thickness of 9 inches, the protective power which required 14 inches at this epoch. But it is certain that the offence has developed more rapidly than the defence.*

This battle following upon the lesson of the 8th so closely, emphasised yet more clearly the doom of the old line of battle ship. Where the *Congress* and *Cumberland* had failed so hopelessly, a vessel infinitely smaller, infinitely less imposing in appearance, had encountered their antagonist without any loss at all. It had been maintained by some that the greater number of guns carried upon the unarmoured vessel would compensate for the absence of protection.† On the contrary, it was now demonstrated that an impenetrable ship cannot be overcome by hurling a mass of projectiles against her side, to merely glance off it. It was not found practicable to silence either the *Merrimac* or *Monitor* by firing upon their port-holes. Some damage was done to the former ship by this method of attack, it is true; but she never ceased to be battle-worthy. And the whole aim of naval tactics is to render an opponent's ship no longer serviceable for action. Till this has been done there is no victory.

The subsequent fate of the two ships which took part in the battle deserves a word. After the engagement the

* The thickest armour can still, it is true, defy the heavy gun. But a very small extent of surface can be protected by thick armour, and the rest of the ship's side is necessarily open to all shots.

† By Sir Howard Douglas and Captain Fishbourne, *vide* for the latter's opinion, Journal United Service Institute, ii., 201 ff. The slow speed, the small number of guns carried by ironclads are his objections, and he also apprehends danger from splinters, and from shots entering through the port-holes of ironclads.

Merrimac refitted, and came out once more,* this time with solid steel shot, and with every preparation to board. She was now commanded by Captain Tatnall, who will ever be honoured by Englishmen, since he it was who, three years before, with the words "Blood is thicker than water," had come to the aid of his kindred in the Peiho. The wooden ships were, however, under the shelter of the Federal batteries, and showed no inclination to risk an engagement. The *Vanderbilt*, a fast merchant steamer, which had been fitted with a formidable ram expressly to destroy the *Merrimac*, remained inactive by the side of the *Monitor*. The Southern ship had with her six gunboats, which were sent in to capture some barges lying near the Federal fleet. These were carried off and destroyed without bringing on an engagement. Seeing that the *Monitor* would not accept his challenge, Tatnall, for his part, did not care to go in under the batteries and attack her. The *Merrimac* was the only vessel of any power which the South possessed to protect the James River, and the water approach to Richmond. In the same way the *Monitor* was the only ironclad to cover Washington and the Northern coast-line. Each commander had, therefore, to be very careful of his ship, and there was nothing to be gained by another doubtful battle. Tatnall had been refused permission to go below Fort Monroe by the Confederate government; and, as all the wooden ships were moored below that fort, he could not make a dash upon them, disregarding the *Monitor*. A month later, the *Merrimac* was scuttled and abandoned by her crew. It was necessary for the Confederates to evacuate Norfolk, and the ironclad's draught of water would not allow her to ascend the James River. At the same time, her destruction was a great blow to the hopes of the Southerners, since those amongst them, who were not sailors, greatly over-estimated her offensive powers.

* April 11th, 1862.

It was an equal relief to the Northerners, who were thus relieved of a dangerous and unsubdued antagonist. The *Monitor* did not long survive her enemy. Most unwisely she was sent to sea, and foundered off Cape Hatteras in a storm, sixteen men going down with her. She never was meant to be a sea-going vessel, and thus her loss cannot be laid at her designer's door.

CHAPTER II.

The Capture of New Orleans.

April 24th and 25th, 1862.

At the outbreak of the war the Mississippi from Cairo to New Orleans had passed into the hands of the Confederates. The possession of this great stream which sundered the Confederacy into two unequal parts, which drains the rich and fertile central plains of North America, and which also gives ready access to the heart of the Continent, was naturally of immense value to them.* Whilst they held it they could draw corn stuffs and bacon from the slave states to the west of it—Missouri, Arkansas, Texas, and the greater part of Louisiana. In these states where every man carried his life in his hands, and where blood-feuds linger on to this day, they could recruit admirable soldiers, men who could use the rifle and who did not value life. The Mississippi lost, the great centres of population in its basin must pass to the North, the Confederacy must lie open, exposed to the attack of Northern armies using the river and its tributaries as their base, the resources and food supply of the West would be no longer at the command of the Southerners, and the single land frontier which did not face the North could not be utilised for the importation of war material. "Uncle Sam's web-feet," as Lincoln called the Union fleet could come and go as they chose, if this river could be wrested from the South.

* Lincoln: "The Mississippi is the backbone of the Rebellion; it is the key to the whole situation."—"Battles and Leaders," ii., 24. The food supply of the South depended upon the West.—Strenzel, United Service Magazine, cxxxi., 128.

Every nerve was strained by the North, after the first months of hurried preparations, to reconquer the Mississippi. Foote, with the Northern river craft, set to work from the north—from Cairo and from Cincinnati. Meantime the works which closed the mouth of the river, south of New Orleans, were reconnoitred; and, encouraged by the reports of spies, who asserted that the Southern defences in this direction had been comparatively neglected, Mr. Fox, the Assistant Secretary of the Navy, decided that an attempt should be made to force a way past the forts, to New Orleans.*

It was a bold undertaking. Duckworth indeed had made his way up the Dardanelles in 1807, with wooden ships, in the teeth of powerful batteries, and Washington years before had urged De Grasse to force a passage under the English works on the York River. These instances Lincoln's advisers may have had in mind. They selected as the Union commander a man, who, himself a Southerner, was by the irony of fate to deal the deadliest blow to the South, a sailor almost the equal of Nelson in audacity and promptitude, who, like his English prototype, at once fired his crews with zeal and earned their warmest affection, David Glasgow Farragut. The ablest admiral since Nelson's day deserves a word of notice. A Virginian by birth he had served on board the *Essex* in her bloody engagements with the English *Phœbe* and *Cherub*. In 1833 he had been on board the warship sent by President Jackson to South Carolina, with the curt sentence "The Union must and shall be preserved." Solicited by his kinsfolk at Norfolk to join the Secessionists at the outbreak of war he had pointed to the flag he had served so well, with the words, "I would see every man of you damned before I would raise my hand against that flag." And he had warned his

* The instructions to Farragut ran: "You will . . . proceed up the Mississippi River, and reduce the defences which guard the approaches to New Orleans, when you will appear off that city." This threw all the responsibility of the attempt to pass the forts upon Farragut, though Fox was the author of the scheme; and to Farragut all the credit of its success is due.

friends that "they would catch the devil before they got through with the business." He was in his sixtieth year, but the energy and vigour of youth had not gone from him.*

On February 20th, 1862, he arrived off the mouth of the Mississippi in his flagship, the screw-sloop *Hartford*. Up to that date the Northern squadron had been content to blockade the entrances to the river, a tedious business amidst constant fogs and occasional attacks of Confederate rams. Henceforward there were preparations for action and action. The crews were exercised at target practice. The ships were stripped of their upper rigging, and chain cables placed outside their timbers in the way of the engines. These cables were threaded at each end on rods of iron, and hung vertically, giving a measure of protection to the ships. Each length of chain overlapped the next length, and was bound to it with cord. The total weight of iron thus employed was very considerable. Bags of sand and ashes were further piled up inside the ships, forming great bulwarks round the vulnerable portions of the machinery ; and strong nettings were disposed inboard on some of the vessels to stop splinters. The hulls were daubed with the yellow mud of the river to render them similar in colour to the river banks, and thus make the task of the Confederate gunners harder. Before the attack was delivered, the decks and guns were, in some instances, whitewashed, to enable the gunners, fighting by night without lights, to see where the various implements in use in the battle lay. This precaution was found to be of the greatest service.

On the 16th of April, Farragut led his fleet up the Mississippi to a point three miles below Fort Jackson, the southernmost of the Confederate defences. It was only with the utmost difficulty that the heavier vessels had been taken across the bar which hinders access to the waters of the river. The sands shift

* At the close of the war the rank of Vice-Admiral was instituted, and Farragut promoted to it. In 1866 he was still further advanced to the new rank of Admiral. He died August 14th, 1870.

continually, and the depth was found to be but 15 feet instead of 19 feet as had been anticipated. Though lightened of everything, sheer force alone hauled the *Pensacola*, the deepest in draught of the Northern ships which fought in the battle, over the banks. The *Mississippi* was fast for eight days, but at last was brought across. And now the ships were face to face with the Southern defences and could see what had to be done.

Two forts interdicted approach to New Orleans. On the right of the river, ascending, was Fort St. Philip, an old-fashioned work supplemented by two water batteries, one on either side of it. On the left was Fort Jackson, built of stone with casemates and a battery of guns *en barbette*. Round it ran a moat, and inside the work was a second moat encompassing a citadel. A water battery commanded the reach of the river below this fort. In all, in these works were mounted one 13-inch, five 10-inch, and two 8-inch mortars; three 10-inch, nine 8-inch, twelve 42-pounder, twenty-four 32-pounder, and forty-six 24-pounder smooth-bores; two 7-inch and two 32-pounder rifled guns*; and ten 24-pounder howitzers. There were thus very few large guns, only twenty-eight excluding mortars, being of heavier calibre than the 32-pounder.

The Confederate commander was conscious of the utter weakness of his artillery. What guns he had were for the most part of antiquated pattern, and those which were recent were cast from improperly tested metal, and were distrusted by their gunners. Application had been made to the Confederate War Department for a supply of heavier and more trustworthy cannon. But partly because of the inadequacy of the Confederate supply of artillery, partly because no one at Richmond could believe that the Northerners would dare to attack New Orleans from below, no guns had been sent; and the Confederate commander, General Duncan, had to do what he

* Firing a shot of 60 to 80lbs.

could with the guns on the spot. Afloat, or completing, the Confederates had a flotilla which would have been capable of rendering great services if it had possessed trained officers or experienced seamen.

There were four ironclads, not one of which was ready as yet. All were of the *Merrimac* type, having submerged hulls and casemate-batteries amidships. The *New Orleans* mounted twenty guns; the *Memphis* eighteen; the *Mississippi* sixteen. The latter was to steam eleven knots, carried 5 and 6-inch armour, and was 270 feet long. Her cost was 400,000*l*., and she was being pushed forward with the utmost expedition, the men working on her night and day. The *Louisiana*, too, was nearing completion. She had a submerged hull and a casemate-battery. Its sides sloped at an angle of forty-five degrees, and were plated with 5 inches of iron. She was fitted with screw propellers, and also with two paddle wheels, placed one in front of the other in a well amidships. They worked extremely badly, forcing the water through the seams of her planking, when started, and flooding the battery deck. Her engines, taken from an old river steamer, were far too weak for her, and would not move her up stream, or keep her under control when descending. She mounted seven 6-inch rifles, two 7-inch rifles, four 8-inch, and three 9-inch smooth-bores. Her gun-ports were much too small, and only admitted of five degrees of training.

A smaller and stranger craft was the little *Manassas*, designed expressly for ramming; a tug-boat, cut down to the water line, and protected by railroad iron ¾ to 1-inch thick, upon 5 inches of timber, so curved that her upper works resembled the shell of a tortoise, and would thus, it was hoped, deflect shot. She could only steam five miles an hour, and had a timber prow for ramming: one 32-pounder was mounted forward, projecting through a port-hole which was closed by a spring shutter. These vessels belonged to the Confederate States' Navy, and were under the orders of Commander Mitchell. He had also the gunboats *Governor Moore*

and *General Quitman*, small wooden steamers, protected about their boilers by barricades of pine wood and compressed cotton, and carrying between them one 9-inch gun and eight 32-pounder smooth bores. Finally, there were six armed and seven unarmed steamers of the "River Defence Fleet," which were not under the orders of either the general or naval officer in command, but obeyed only the War Department at Richmond, when they obeyed anyone. There was neither discipline nor training on board them; they had no competent naval officers, and no drilled gunners. On the scene of action they behaved with positive cowardice, and thus they could not be seriously reckoned in the defence. Moreover, there was a certain amount of friction between General Duncan and Commander Mitchell, so that the conditions were not favourable for the Confederates. It would appear to be essential, when forts and ships are co-operating, that one man should have the control of forces on land and forces on the water.

Most important among the Confederate defences was a boom which had been carried across the Mississippi, just below the forts, and under the muzzles of their guns. It was constructed of cypress logs 4 to 5 feet in diameter, fastened together with iron cables of immense strength. Thirty 3000lb. anchors held the boom in position, whilst each end was made fast on land.

Luck, however, was against the Southerners. The Mississippi is subject to sudden freshets in the spring, and during March, rising to an unwonted height, had carried away the central portion of the boom. Attempts were made to reconstruct it, but without success. Finally, eight schooners, each of 200 tons, were anchored in the gap, and fastened to each other and the remnants of the boom with 1-inch chains. Their masts were taken out and left to drag astern so as to disable the screws of approaching ships.

After Farragut had arrived below the forts, some days were spent by the Federals in making a triangulation of the forts

and river, and in placing buoys. The Navy Department had dispatched a number of mortar boats which were to prepare the way for the fleet by a vigorous bombardment. These vessels were placed in position before the 18th of April. They numbered twenty vessels in three divisions. The first and third divisions containing thirteen schooners were moored in line close under the southern (Fort Jackson) bank of the river, the leading schooner being distant 2950 yards from Fort Jackson. Here they were hidden by trees and by a slight bend of the river. That their masts might not betray them, they were dressed with branches. The second division of seven schooners was under the opposite bank, the leading vessel 3900 yards from Fort Jackson, and in view of the Confederate gunners. On the morning of the 18th the schooners opened their fire, pitching their huge 13-inch shells into Fort Jackson at intervals of ten minutes. The northern division could see where each shell dropped, and therefore fired with most effect, but, on the other hand, was exposed to the Confederate projectiles. The gunners in the fort gradually found the range, and about mid-day began to hit the schooners with heavy shot, on which the second division changed its position. The gunboat *Owasco* supported the mortar vessels, taking turns with other Federal vessels in drawing off the Confederate fire, and escaped injury herself by keeping in constant motion. At five o'clock in the afternoon dense smoke was seen rising from the fort. With nightfall the mortar vessels increased their rate of fire, whilst the second division, after two vessels had been all but sunk, joined the other schooners under the shelter of the southern bank. A huge fire-raft was sent down by the Confederates, but failed to harm any ship.

Day after day the bombardment continued. The garrison of the fort were annoyed by the steady rain of shells, and the magazines were nearly hit twice, yet the damage done was not very serious. The men were kept inside the casemates, though in the water battery they were never driven from their

guns. In short, the fort was by no means silenced, and the many thousands of shells fired produced far less effect than might have been expected. Colonel Higgins, however, who was in command of Fort Jackson, fearing that the garrison would be demoralised, was anxious that the *Louisiana* should come down and attack the schooners, but the naval officers had other views. She was not ready, they urged; she could not reach the Federals with her guns, and finally she could not be exposed to high-angle fire. The unhappy effects of the division of command are manifest.*

On the night of April 20th, supported by an unusually fierce bombardment, the two gunboats *Pinola* and *Itasca* were sent upstream to make an opening in the boom. Their rigging and their masts had been taken out on the previous day, but none the less they were seen and fired upon, though without effect. Running alongside the third schooner from the northern bank, they attempted, unsuccessfully, to blow her up. On the failure of this her moorings were slipped, but the *Itasca*, which was fast to her and had not expected her to be let go, was carried on shore by the current under the very guns of the fort, and was only got off by the *Pinola* after two hawsers had parted. The *Pinola* then rammed the boom, running at it under full steam, with great effect, and opened a wide passage. This was reconnoitred three nights later, as the Federal officers were not altogether certain that there was not a chain across, below the water-level, or submerged mines. Lieutenant Caldwell in a boat examined the gap with a sounding line, and was able to report to Farragut at eleven o'clock that all was clear. Though the Confederates must have seen him they did not fire upon him.

* The small size of the *Louisiana's* port-holes limited the range of her guns, as the latter could not be elevated. Yet in spite of this and her weak engines, she might have been towed down to the boom to attack the mortar-boats. Admiral Porter and General Duncan hold that she could have done more than she did. Scharf, however, maintains that the Confederate Navy did all that could be expected.—Hist. Confed. States' Navy, p. 282-3.

It was a matter of necessity to make the attack at the earliest date possible. The Confederate ironclads were being rapidly completed, and it was manifest to Farragut that the mortars had not crushed the forts. The 16,800 shells pitched into them had killed or wounded eighteen men, and disabled ten guns out of 126. But the constant alarms and excursions had to some extent shaken the *morale* of the garrison in Fort Jackson, and it was noticed during the attack that they did not shoot so straight or so steadily as the men in Fort Philip, who had not been exposed to the bombardment. Colonel Higgins was certain that the hour of attack was at hand from various signs, the breaking of the boom and the activity of the Federals, and had stirred Mitchell up once more. In response to his entreaties the *Louisiana* had been brought down and moored near the forts. She was far from ready, and there were fifty artificers still at work upon her.

Farragut had decided upon the night of the 23rd for his great venture. His ships were to ascend in three divisions. In the first division were the *Cayuga* (2 guns), the *Pensacola* (23), the *Mississippi* (17), the *Oneida* (9), the *Varuna* (10), the *Katahdin* (2), the *Kineo* (2), and the *Wissahickon* (2). In command as divisional officer, was Captain Bailey on board the *Cayuga*. The second division was commanded by Farragut himself, who led in the *Hartford* (24), followed by the *Brooklyn* (20), and the *Richmond* (22). In the third division were the *Sciota* (2), the *Iroquois* (7), the *Kennebec* (2), the *Pinola* (2), the *Itasca* (2), and the *Winona* (2) under the charge of Commander Bell. Excluding the mortar flotilla,* the fleet brought to bear 192 guns and howitzers, only forty-six of which were smaller in calibre than the 42-pounder. One round from every gun in the Federal ships would give a weight of metal amounting to over 20,000lbs.†; from every gun in the Confederate forts and ships only a little over

* This mounted 110 guns.

† For details of ships' and forts' batteries, *see* Table II.

7000lbs. But in appraising the odds we must remember the immense advantage which forts have over ships.

Originally Farragut had intended that the most powerful ships should lead, and thus prepare the passage for the lighter and weaker craft. He had given way reluctantly to his officers who pointed out that it would be a real danger to expose himself, as he intended, by leading the way in the *Hartford*.* In response to their entreaties his flagship was in the centre of the line. On the 23rd he had personally inspected every vessel under his command. Howitzers were sent up to the tops and protected by breastworks of boiler plate, whilst boats and all possible spars were left ashore. The want of ahead-fire in the fleet was a very serious defect for the work now in hand; not a single gun would bear right ahead. As the ships would in turn use either broadside, it should be remembered that about 60 per cent of any Northern vessel's guns could be fought on either side. The gunboats, however, carried only pivots, and could use both their guns.

The report that the passage through the boom was open was made at eleven in the evening. The night was clear and still, and when at two o'clock in the morning of April 24th, the signal was made to get under weigh, the click of the capstans and rattle of the cables at once told the Confederates that the fleet was preparing to move. The alarm in the forts was sounded and the men stood to their guns, waiting anxiously for the fire-rafts, which Commander Mitchell was to have sent down to show their opponents clearly. The rafts were late in coming, and in darkness the Federal line neared the forts, moving slowly up-stream and delayed greatly by the vehemence of the current. As soon as the fleet was under way the mortar vessels opened, firing at their fastest, and their great shells, dropping, left long tracks of smoke behind them, and burst with a fearful din in the forts. The *Cayuga* passed the boom before the Confederates opened in

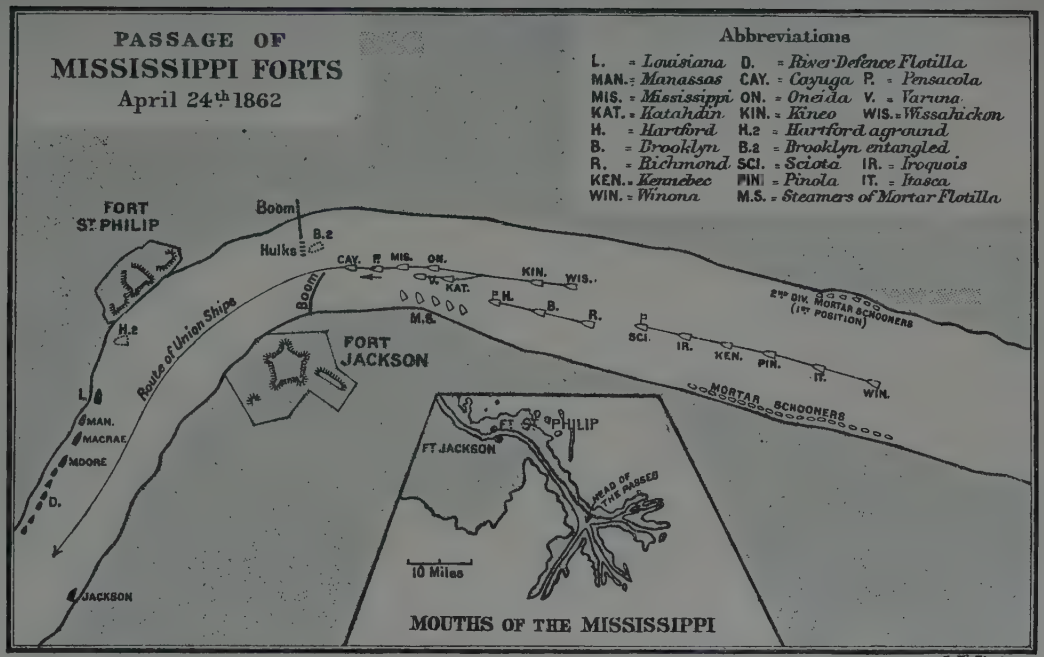
* *Vide* page 120.

reply. Not a gun could she bring to bear, but under the storm of shot and shell she stood boldly on. She was hit from stem to stern, and the air was full of bursting shells. Noting that the Confederates were aiming for the centre of the stream, her officers took her in close under the bank, and gave the gunners grape and canister. A thick screen of smoke was descending upon the river, and this in no small degree helped her and the vessels which followed her. Her masts and rigging were riddled, but her hull escaped grave injury. She had made the run at full speed and distanced all the other ships. On looking back her commander was appalled to discover himself alone. Ahead were eleven Confederate gunboats; astern impenetrable smoke; and for a moment he thought that the enterprise had miscarried, and that the heavier ships had failed to pass the forts.

Second, originally, was the *Pensacola*, but the *Varuna*, going full speed, quickly passed her and reached waters where the guns of the forts could no longer harm her. She was closely followed by the *Oneida*, which had steamed so near in under Fort Philip that the fire from the Confederate guns scorched her men, and the sparks flew on board. But the storm of projectiles flew over her harmlessly, and neither she nor the *Varuna* suffered hurt. The *Pensacola*, dropping back to the fourth place and closely followed by the *Mississippi*, went very slowly past the forts. So close were the two combatants to each other that, above the din of the unceasing cannonade, the ships' crews could hear the officers' orders in the forts, the soldiers' curses and jeers, and answered them sailor-fashion. Thus, as they fought, the two sides railed each at the other. The *Mississippi* was hulled ten times, but except a slight injury to her outer shaft-bearing, she was none the worse. Yet her troubles were not over, for just as she had passed the forts a dangerous antagonist came down upon her. The *Manassas*, almost flush with the water, had charged the *Pensacola* first, but the Federal ship sheered and avoided her onset. Then, bounding forward at her fullest

speed through the dense smoke, and helped by the current, she struck the *Mississippi* a glancing blow, which did not penetrate the timbers of the Union ship's side. Next the *Katahdin* passed the forts with a shell in her funnel and a shot through her foremast, but without a scratch on any of her men. The *Wissahickon* followed her closely, and was about as much damaged.

Farragut's division had, either from the impatience of its commander, or from some delay of the leading squadron, gained steadily upon it, so that, in passing the boom, the *Brooklyn* collided with the *Kineo*, but neither vessel was damaged. The *Hartford*, in front of them, had opened upon Fort Jackson with her bow guns, receiving in return a most galling fire. Fire-rafts were now at last beginning to come down the river, but too late to give the Confederate gunners much help. The smoke from the guns of the forts and the ships hung in an almost impenetrable curtain over the still waters, shrouding the ships from the gaze of the Confederates, and thus rendering Farragut's passage much easier. But, in the gloom, a fresh danger assailed the flagship. The little Confederate tug *Mosher* came down the stream, pushing in front of her a huge fire raft. She was of wood herself, and therefore exposed to the danger of fire; whilst the bright light from the flames made her a splendid mark at close quarters for the *Hartford's* guns. Half-a-dozen men were her crew, under the command of one Sherman, and they all paid for their heroism with their lives. They drove their raft upon the Union ship amidst a hail of projectiles, and instantly the tongues of fire licked the *Hartford's* side, played in through her gun-ports, and ran up her rigging. It was the critical moment of the engagement, and what added to the danger of the *Hartford* was that, in endeavouring to avoid the fire-raft, she had taken the ground under the very guns of Fort Philip. The hostile gunners could be heard shouting; the flagship's bowsprit all but touched the shore. Every gun that would bear in Fort Philip opened



G. Philip & Son.

MAP II.

upon her, and, thus beset, she barely escaped destruction. Never for a moment did Farragut lose his self-control, though, as the flames shot up, he was heard to cry, "My God, is it to end in this way?" It was not to end thus. Fortune smiles upon the brave, and, animated by the gallant bearing of their leader, the sailors faced the flames as fearlessly as they had faced the enemy's guns. Fire-quarters were sounded, and the hoses were brought to bear upon the blazing masts, whilst, just above the heads of the men on deck, flew the iron hail from the fort. As the men fell back from their guns before the fire, Farragut shouted to them, "Don't flinch from that fire, boys! There is a hotter fire for those who don't do their duty. Give that rascally little tug a shot." Meantime the engines went astern. By Farragut's prevision the heavy weights were in the bows of the ships, so that, if they grounded, it would be forward, when the stream would not swing them round athwart the river, as it would have done had they taken the ground aft. Slowly the *Hartford* got clear, helped, perhaps—though this is doubtful—by a thrust from the ram *Manassas*, which was passing her. With only one man killed and nine wounded, the flagship once more went ahead, and passed out of range of the Confederates, disabling on her way a steamer full of troops, which made for her, and seemed inclined to board.

The *Brooklyn* did not get off so lightly. In the dense smoke she lost sight of the *Hartford*, and fouled the boom after, as we have seen, colliding with the *Kineo*. The ship fell off across the river, her bow grazing the left bank, whilst Fort Philip poured a furious fire in upon her. Here, again, there was splendid gallantry and discipline. Her captain, Craven, stood calm and motionless on deck; her quarter-master at the starboard main chains, whilst bullets struck the ship's side about him, calmly called the soundings. The guns in Fort Jackson got her range, and struck her repeatedly. A midshipman and the signal quarter-master were cut in two. The steersman received a serious wound,

but refused to go below. At last the ship got clear of the boom, and went ahead through the gap, but had only just passed it when a violent jar was felt, and she stopped, right under the guns of the forts. Her propeller had struck something floating in the water, and it was feared that she would have to anchor, to her own speedy destruction. The command, "Stand by the starboard anchor" was given, and the men were ready to let it go, when once more the ship moved. There was a vigorous exchange of fire with Fort Jackson, the grape from the Federal guns flying in upon the Confederates, while the fort seemed to be full of "lamp-posts," as the stands which held the grape were called. A shot from the fort entered the port of No. 9 gun in the port battery, took off the head of the captain of the gun, and wounded nine men, leaving only two of the gun crew standing. Covered by this fierce fire the ram *Manassas* charged the *Brooklyn* at the fullest speed of which her slow engines would admit. The cry, "The ram" rang through the ship, followed by the orders "Full speed" and "Starboard the helm." With a shock which nearly took the men on the Federal ship off their feet, the *Manassas* went into the *Brooklyn* amidships, and, as she rammed her, fired her one gun. The chain armour gave good protection; and beyond crushing it into the outer planking, and splintering the timbers inside, luckily on a coal bunker, full of coal, the ram inflicted little harm. Had the bunker been empty there might have been another story to tell. The shot from the gun entered five feet above the water-line, and was brought up by the sand bags piled round the steam drum. As the *Manassas* struck the *Brooklyn* a man came out of the trap door on the ram, and running forward, whilst the ships were in contact, looked to see what damage had been done. The quarter-master in the chains of the *Brooklyn*, seeing him, slung his lead at him, and struck him on the head, knocking him off the turtle deck into the water. None of the *Brooklyn's* guns could be given depression enough to hit the *Manassas*, and she got off

unscathed. A minute or two later a large Confederate vessel came up, but was received with a hail of shells at a distance of only sixty yards, which instantly set her on fire.

Nearing Fort Philip the *Brooklyn* ran past the *Hartford*, then fast aground, when with singular gallantry Craven determined not to leave his chief to bear alone the storm of fire. Deliberately he did one of the most heroic actions of the war, and stopping his engines he dropped down to succour the *Hartford*. The Confederates turned their guns upon him, giving the *Hartford* a respite, but, fortunately for him, fired too high, as the shot and shell passed above the Northern ship, and cut her rigging to pieces. Not till the flagship was clear of the fire raft, and off the shoal, did the *Brooklyn* quit her station. Then, standing up past Fort Philip, she gave the gunners there a bad five minutes. At a distance of only 100 feet she poured in canister and grape, and the men in the tops could see the Confederates in the fort running for dear life to shelter. None the less there were some who stood to their guns, and the *Brooklyn* had a warm reception. The lieutenant in charge of the first division of guns was hit, but would not go below till he had sighted and fired two guns with his own hand. A marine had his head taken off by a shot, and a shell dropping amongst the crew of the forward pivot gun blew its powder man to atoms. The fire of their enemy's guns scorched the faces of the *Brooklyn's* men. Feeling his way through the dense smoke, which only gave occasional glimpses of the other ships, Craven passed Fort Philip when a fresh danger loomed up before him. Moored above the fort was the *Louisiana*, which rumour had pictured as a terrible antagonist. At her the *Brooklyn* aimed a broadside, but the shots could be seen striking the ironclad and glancing up. This fire however wounded two of the *Louisiana's* officers who were exposed on her deck In reply the Southern ship discharged every gun that she could bring to bear, and hulled the *Brooklyn* with a heavy shell upon her cut-water. Luckily for the Northerners the shell did not

explode as the Confederates had failed to remove the lead cover from the fuse. The *Brooklyn* went forward and plunged into the confused struggle which was raging above the forts. In all she had been more than an hour engaged with the forts, and yet her loss had been only eight killed and twenty-six wounded.

The *Richmond* was detained by the foaming of her boilers, but passed the forts just after they had been roughly handled by the *Hartford* and *Brooklyn*. Colonel Higgins the Confederate commander's exclamation, when he saw these ships escape him was characteristic, "Better go to cover, boys; our cake is all dough. The Old Navy has won." So, as the Confederates were under cover, the *Richmond* lost only two killed and four wounded. The nettings inboard proved most useful, catching a large number of splinters and doubtless saving many lives. Her commander notices in his report the immense advantage which is conferred for night action by whitewashing the decks and gun carriages.

The second division had thus passed the forts without any very serious damage to ships or loss of life. The third attempted to follow. The *Iroquois*, originally second in the line, quickly outstripped her leader, the *Sciota*, and was engaged about four o'clock. Whilst she was exchanging fire with the forts two Confederate vessels, the gun-boat *Macrae* and a ram, came up on her quarter and poured into her a broadside of grape. In reply she gave her opponent canister and one 11-inch shell, wounding her commander and forcing her to retreat. Just as she was clearing the forts, through a misunderstanding of the order "Starboard" for "Stop her" she was run alongside the *Louisiana*, whose gunners, double-shotting their guns, gave her a destructive broadside. A minute later she was attacked by six steamers, but drove them off with shell. Her rigging was much damaged, her boats were smashed, and her loss in men was heavy. Eight were killed and twenty-four wounded. The *Sciota* suffered very little.

The *Pinola*, coming third, opened fire as soon as she was abreast of Fort Jackson, but as before, when the Confederates replied, their shot and shell passed over the heads of the Northerners only killing one man. Off Fort Philip, however, the fire rafts showed up the ship, and at a range of 150 yards she was struck repeatedly. The pump-well was damaged; the escape-pipe cut; the wheel broken; and the ship set on fire in the neighbourhood of the magazine. On fire-quarters being sounded the gunner's mate, Frisbee, who was inside the magazine, instantly closed the scuttles, remaining within The fire, however, was extinguished without difficulty, and this ship also passed the forts. She had three killed and seven wounded.

The *Kennebec*, which should, by the original plan, have followed the *Iroquois*, came into line behind the *Pinola*. On reaching the boom she caught in it and was exposed to a very heavy fire. When she disengaged herself, she found that the ships in advance were out of sight, and that she would have alone to face the terrible cross-fire. A weak and small vessel she did not make the attempt, which meant almost certain destruction, but fell back. Following her came the *Itasca* and *Winona*. The *Itasca* passed the opening in the boom, but when abreast of Fort Jackson was very severely handled. The Confederate projectiles rained about her, and many struck her, several passing through her. A 42-pounder shot came through a coal bunker and pierced her boiler; the steam escaping violently, drove everyone from the fire-room into the engine-room, and almost suffocated those on the quarter-deck. The vessel, having lost her motive power, turned with her remaining speed and floated slowly down the river. Her crew were ordered to throw themselves flat on deck, and thus escaped heavy loss. When beyond the range of the forts, her commander ran her on shore, finding that she was making water very fast, but afterwards floated her off again, since he discovered that the leak was not so bad as he had supposed. His loss was three wounded or scalded. The

Winona came last. As she followed closely upon the *Itasca*, that ship backed upon her to avoid the masts trailing from schooners of the boom, and the two ships were entangled and delayed half an hour. When the *Winona* again proceeded on her way, the day was breaking, and her hull stood out against the sky, a good mark for the Confederates. Fort Jackson opened a most destructive fire upon her, in four shots killing or wounding every man at her heavy rifled pivot. The smoke prevented her commander from seeing clearly his way, and he stood in very close to Fort Philip, almost running on shore. The guns of the Confederate works played upon the gunboat with great effect, and the spray from the falling projectiles splashed her deck. It was madness to persist in the attempt, alone and unsupported, in broad daylight, to steam between the forts. Reluctantly she obeyed a signal of recall from Commander Porter, having lost three killed and five wounded.

Three ships thus failed to pass the forts, the *Itasca*, *Winona*, and *Pinola*.* Meantime, whilst one by one the Northern vessels were defiling past the Confederate gunners, a confused struggle was raging above the forts, and to it we must recur. The Confederates had, as we have seen, a considerable flotilla, and this had to be encountered and defeated before Captain Farragut's ships could make their way to New Orleans.

The *Cayuga* had been the first to leave behind her the terrible cross-fire. Emerging from the smoke she saw ahead three large steamers which simultaneously charged her. Two were in quick succession hulled with 11-inch and 30-pounder shells which set them on fire and drove them off. The third came on, and boarders were ready on either side, when the *Varuna* arrived on the scene and disabled the Confederate with a shot. The new-comer then steamed up

* All three were small vessels, and their failure points to the expediency of using large and strong ships for such work. The six guns which these three vessels carried between them, were not able to keep down the fire of the forts.

the river through what was left of the Confederate flotilla. A dangerous antagonist, however, was following her unobserved. Lieutenant Kennon, of the Southern gunboat *Governor Moore*, had heard the beat of paddles in the stillness of the night and given the alarm. And now, a few minutes later, he saw, emerging from the smoke of the engagement raging between the forts, the masts of a large steamer. He knew her by her distinguishing lights, and followed at once, keeping under the shelter of the bank. With oil in his fires, he quickly overhauled her, and hoisting Federal lights, stood towards her. The *Varuna's* people did not know him for an enemy, and allowed him to come up, when, just as day broke, he lowered his false lights and opened. A warm action followed, in which Kennon, coming to very close quarters, deliberately fired his bow chaser through his own bow, hoping to hit his enemy below the water-line and sink him.

Following this, he rammed his antagonist twice in succession, but his ship was set on fire by the *Varuna's* shells, and had her engine disabled into the bargain. She drifted down stream having lost fifty-seven killed and seventeen wounded out of a crew of ninety-three. This fact speaks volumes for the dauntlessness of the Confederates. Fired upon by the Federal ships which were following the *Varuna*, Kennon ran the *Governor Moore* ashore and got off all who were left alive. The *Varuna* had not, however, disposed of all her enemies. Suddenly the *Stonewall Jackson* came on her out of the twilight and rammed her twice. The *Varuna*, sinking fast, plied the Confederate with shell and drove her off, but was forced to run on shore herself. Here her guns were fought till the water covered her deck. Meantime the *Stonewall Jackson* steamed up stream, and was abandoned and set on fire by her commander. The *Varuna's* crew were rescued by the now rapidly arriving Federal ships.

The *Oneida* was the third ship to engage the gunboats. She charged a Confederate vessel with a great crash just above the forts, and, standing on past the gunboats, came

upon the shattered *Governor Moore*, who signalled that she was "the United States steamer *Mississippi*." The Federals were not so easily taken in, and opened a smart fire upon her, after which they lowered boats and captured her with Commander Kennon. The last act of the day's eventful fighting was an attempt made by the *Manassas* to ram the *Pinola*. She was coming up astern when the *Pinola's* men saw her, and gave her a shot from their heavy rifle. Almost at the same minute the *Mississippi* bounded forward, and endeavoured to run her down. But though she had been much shaken by her frequent attempts to ram, and though her engines were never good for very much, she eluded the *Mississippi*, ran ashore, and was set on fire by her crew. The Union ship riddled her with shot unaware that she was abandoned.

That same morning the fleet compelled the surrender of a Confederate force at Chalmette. Forts Jackson and Philip still held out, but their fall was only a question of time. They were cut off from the Confederacy, and their garrisons, unable to obtain food or ammunition, much shaken and demoralised by the bombardment, surrendered on April 29. Four days earlier Farragut's fleet had anchored off New Orleans.

The consequences of this engagement, followed as it was almost immediately by the capture of the forts and New Orleans, cannot be over-estimated. It was the third great blow which the Federal navy had struck during the war, and if it were of less importance than the battle between the *Merrimac* and *Monitor*, it was of greater moment both to victors and to vanquished than the capture of Port Royal.* It lessened the number of ports to be blockaded by one, and that one a port which, owing to the nature of the coast, the numerous mouths of the river, the comparative proximity of Havana, and the excellent communication from it inland, both by rail and by water, was exceptionally well situated for the

* Bombarded and captured by a squadron of wooden ships under Captain Dupont, who was supported by a detachment of troops.

PLATE V. H.M. BATTLESHIP ROYAL SOVEREIGN.

See ii., 234.

blockade-runner's trade. The Confederate forts on the Central Mississippi could now be taken in rear, and the final opening of the river was foreshadowed. Nor is Farragut's victory without military importance. It showed that forts alone cannot forbid passage to a fleet, even when the channel which they command is narrow, tortuous, and swept by a rapid current. Luck, of course, was on the side of the Northerners. Had not the freshet accommodatingly broken the boom, their task would have been, if not impossible, at any rate very much harder. All admiration is due to Farragut for his daring and resolution, but there are certain circumstances to be taken into account when considering the small damage done to the fleet.

Firstly, a large number of the garrison were Northerners who had asked to be permitted to serve in the forts that they might not be compelled to fight against their country. There were in addition many Irish and Germans. So bad was the feeling of the men that they broke into open mutiny and spiked many of the guns on April 27th. We can well believe that an affection for the North would not tend to good shooting on the part of the gunners. They knew the ranges, and yet their fire almost uniformly passed above the heads of the Federals. We must also remember that they had been much shaken by the bombardment. Fort Philip maintained a more accurate fire than Fort Jackson, which may be accounted for by the fact that during the preliminary bombardment it had received very little attention from the Federals. High-angle fire on this occasion produced but small result. The mortar vessels discharged bombs till their ammunition ran short, but for all practical purposes Fort Jackson was intact after all this sound and fury. Yet Farragut still retained some faith in them, and in his subsequent actions upon the Mississippi used them for bombardments.* Secondly, we must recall the

* "He was convinced that the fleet could run by the forts, and anticipated nothing but delay from the bombardment."—Mahan, "Farragut," 124. But Porter (Naval History, 272) maintains that he spoke of mortar-vessels in the highest terms.

indifferent nature of the artillery, which the Confederate works mounted. Had Colonel Higgins' and General Duncan's entreaties for heavier guns been complied with, the issue of the action might have been different. Twelve guns throwing shot of 68lbs. and upwards were not a very large allowance for the defence of a port of such political and strategical importance. No doubt the physical difficulties to be faced by the Federal contributed in some measure to the heedlessness which the Confederate War Office showed in this direction. To ascend a swift river in the face of the most moderate opposition is a difficult task, and the South looked rather for a descent from the north. Thirdly, there was the fatal defect of divided command. Had the forts, the ironclads, and gunboats been under the direction of one man, the Confederate resistance would have had far more chance of success. Instead there were no less than three various commanders. There was General Duncan in charge of the forts, there was Commander Mitchell with the vessels of the Confederate navy, and there were the "River Defence" boats whose captains did each what seemed good in his own eyes. The officers and men of the Confederate navy fought with a gallantry to the full as great as that of Farragut's sailors, but they did not act in combination. Fire rafts were not sent down as they should have been at the commencement of the attack, and the most was not made of the *Louisiana*. The "River Defence" sailors did not understand in the least what was to be expected from brave men. "When I saw all those ships coming," said one captain, "I just fired the vessel and skipped." This man had no idea of fighting resolutely against great odds, and it is such resolution which often wins when the chance of success appears hopeless. Fourthly, there were no mines or torpedoes sowed in the channel. Not one of these considerations detracts from the reputation of Farragut. The task before him was, in the opinion of unprejudiced foreign officers on the spot, a most formidable one, and they freely prophesied defeat. A slight mischance

to the *Hartford* at the critical moment, and there might have resulted not defeat, but disaster.

In war great risks must frequently be run to obtain great success, and the truly able commander is not he who, with a vast superfluity of resources or a great superiority in force, wins victories; but the man who with little does much. Had Farragut failed, his failure would have been meritorious. He had weighed and considered the possibilities, and he had made every preparation which science, ingenuity, and foresight could suggest. Like Nelson, he won, not because he despised his enemies, but because, after careful calculation and reflection, he had come to the conclusion that the odds against him were not so great as they seemed. His promptness is a point to be commended. By attacking when he did he came upon the forts before the Confederate ironclads were completed, and thus escaped one great danger. If, after facing the Confederate gunners on land, he had had to encounter a powerful mobile force on the water, he might have met with disaster.

It is curious that it never occurred to the Confederates, when their first boom was breached by the current, to place other obstructions across the river, just under the guns of Fort Philip. Even a weak boom in such a position could not very well have been destroyed by small gunboats, and would have held the ships right under the guns of the forts, where they must have been sunk by the Confederate fire.

This operation of the Northerners was in one way a greater feat than the passage of the forts at Mobile, since the strong current had to be reckoned with. It is not then a simple case of running past works on land. The utter inability of the ships to silence the forts at the very close ranges which the scant breadth of the river necessitated, is remarkable. Fort Jackson lost fourteen killed and thirty-nine wounded. No serious injury was done to the work, and it could have held out indefinitely if supplies could have been assured. Not a man in the water battery was driven

from his post, in spite of the hundreds of rounds of grape which the Federals fired into it. The total loss of Farragut's fleet was thirty-seven killed and 147 wounded, though included in this number are those who fell in the action with the gunboats. In proportion to her size, the heaviest loss was suffered by the *Pinola*, one of the smallest ships.

CHAPTER III.

The Opening of the Mississippi.

1861-1863.

We must now go back some months to earlier operations on the upper Mississippi. The struggle in this direction was one of enormous importance, but in it the army played as great a part as the fleet. Yet without ships it would have been impossible for the Northern commanders to clear the river and thus to sunder the Confederacy. Naval power here also exercised great influence upon the struggle, and its intelligent employment may be watched with profit, though the theatre of the contest was a river and not the sea.

The Confederates in 1862 were very firmly planted on both sides of the river. Strong works were constructed or under construction below New Orleans, at Baton Rouge, Vicksburg, Memphis, Island No. 10, Fort Pillow, and Columbus; whilst on the Tennessee and Cumberland Rivers stood Forts Henry and Donelson. The latter protected the left flank of the South from the direct attack of the Northern armies, and was well adapted to serve as a base, in the event of an attempt being made to realise the Confederate aim of pushing forward the frontier to the Ohio River, and threatening the Northern States of Illinois and Ohio. A large number of Confederate ironclads were under construction at various points on the Mississippi. They were generally similar in design to the *Merrimac*, casemated ships, plated with railroad iron.

In the spring of 1861 the North had set to work to build a river fleet. Three wooden steamers were purchased, their boilers protected by coal bunkers, and smooth-bore guns mounted. They were followed by nine small and thinly armoured gun-boats built at Cairo by Mr. Eads in the short space of a hundred days.* They were propelled by paddles, carried casemates protected by 24 inches of oak and 2 inches to 3 inches of iron forward, but had only the iron without the oak amidships and astern; they had conical pilot houses; and their armament of 8-inch and 32-pounder smooth-bores, with 42-pounder rifles, was so disposed as to give them a powerful bow fire. They were very slow and somewhat unmanageable. Their paddle-wheels were generally placed amidships in a gap left in the hull, and were thus protected by the casemates. Thirty-eight wooden rafts, to carry each one 13-inch mortar, were also completed. A great mistake was made in giving the river flotilla an inadequate thickness of armour, and in failing to protect the decks, which were much exposed to a plunging fire from works placed upon the bluffs, generally selected by the Confederates for their forts and batteries.† The gunboats and ironclads were manned by a miscellaneous collection of soldiers, sailors, steamer-hands, and landsmen, and officered from the army and navy. Yet their ill-compacted crews behaved with uniform bravery and determination.

* The three purchased vessels were named *Tyler*, *Conestoga*, and *Lexington*, and carried 64-pounders and 32-pounders. The Eads' gunboats were of two types. Of the first type, the *Cairo*, *Carondelet*, *Cincinnati*, *Louisville*, *Mound City*, *Pittsburg*, and *St. Louis* (re-named *De Kalb*) were examples. Their length was 175 feet and their beam 51 feet. The rifled 42-pounders which they carried were most dangerous and unsatisfactory guns. Of the second type, the *Benton* and *Essex* are representative. The *Benton* had been a snag-boat, and was remodelled by Mr. Eads. She had a double hull, but the gap between the two was planked over above and below. Her length was 202 feet, her beam 72 feet, and her displacement 1000 tons. The *Essex* was a little smaller and weaker.

† This defect was remedied in some of Mr. Eads' later designs by 1-inch deck plating.

In September, 1861, fighting began between these vessels and Confederate forts, or bodies of troops, on the banks of the Mississipi, Tennessee, and Cumberland. On November 6th two of the gunboats covered the re-embarkation of Grant's army at Belmont, saving it from almost certain destruction. On January 11th, 1862, the *De Kalb* and *Essex* engaged a Confederate floating battery at Columbus, and inflicted some injury upon it. But the serious work began with the combined military and naval attack upon Fort Henry, where were batteries on both sides of the Tennessee River, manned by 2800 Confederates, and mounting 10-inch smooth-bores and 6-inch rifles, beside smaller guns. At 10.20 a.m. on February 6th, 1862, the ships attacked. The ironclads were drawn up in line abreast in the following order: *Essex* (9 guns), *Cincinnati*, flagship (13), *Carondelet* (13), *De Kalb* (13), from right to left. The three wooden gunboats—*Conestoga* (3), *Tyler* (9), *Lexington* (9)—were astern. Steaming in to a range of 500 yards, the ships opened a hot fire upon the batteries with their bow guns. A steady rain of shells descended upon the Confederate gunners, who were much exposed in serving their weapons. About 1 p.m. a Confederate shell entered the *Essex*, and perforated her boiler. There was a terrible scene in the casemate. The escaping steam scalded hideously most of the men in it, though a few escaped by jumping through port-holes. Both pilots in the pilot-house were scalded to death, the captain was badly injured, and the deck was covered with men writhing in agony. Twenty-eight in all fell victims to this shot, and of them but half recovered. The *Essex*, disabled and helpless, drifted slowly down stream, away from the fort, whilst the other ships continued the engagement. The *Cincinnati* was hit thirty-one times, but not seriously damaged. The *De Kalb* had seven hits, and the *Carondelet* according to Flag-officer Foote's report, six, according to her gallant captain, Walke, thirty. The Confederate fire was most accurate and steady, but the gunboats were too

much for the soldiers. At 1.40 Fort Henry hoisted the white flag, though not till the Confederate camp was ablaze, and General Grant's force of 10,000 men had deployed for the attack. The sorely wounded men on board the *Essex* were thus gladdened by the news that their sufferings had not been wasted. By the surrender of the fort, the Tennessee River was opened to the North, and this, as the river led into the very heart of the Confederacy, to the north of Alabama and Mississippi and the south of Tennessee, enabled the Northern troops to threaten these districts and the extremely important railroad, which, joining Charleston and Memphis, was the only through route between East and West. After the capture of the fort, the three wooden gunboats pushed on up the river, destroyed the railway drawbridge, burnt three Confederate transports laden with powder and military stores, and captured a fine steamer—the *Eastport*—with a vast quantity of provisions. The damage thus inflicted was immense, since all these stores were urgently needed by the Confederate troops.

Fort Donelson did not long survive Fort Henry. It was a far stronger work; indeed, it might be called the key to the outermost Confederate line of defences, extending from Columbus to Bowling Green. The garrison mustered no fewer than 21,000 men, and the guns mounted were heavy, ranging from the 10-inch smooth-bore downward. On February 12th, Walke, in the *Carondelet*, arrived in front of this most formidable fortress. He was requested by Grant to shell it, and did so on this and the following day, dropping 139 shells into the works, and receiving little damage. One shot, however, came through the casemate armour, and burst the steam-heater. Next day, the *De Kalb, Louisville, Pittsburgh, Tyler*, and *Conestoga* having arrived, the attack was renewed. To protect the vessels from a plunging fire, their decks were covered with planks, bags of coal, chains, and hawsers. As usual, the four ironclads attacked, leading in line abreast, whilst the wooden ships were kept to the rear.

G. Philip & Son.

Map III.

The leading vessels ran on till they were only four hundred yards from the Confederates, who hit them repeatedly. The *Louisville* was raked by shells, and had her steering-gear disabled. The *De Kalb* was struck in her pilot-house, and her pilot was killed. Both these vessels began to drift out of the battle, whilst the *Carondelet* and *Pittsburg* caught the full force of the Confederate fire. They were repeatedly struck between wind and water, and all the projections outside their armour were either shot away or much battered. Their plates were shattered and torn, and two of their rifled guns burst inside the casemates. At the end of ninety minutes' fighting there was nothing left for them but retreat, and this was all the more annoying because the Confederates gave signs of flinching. The fleet lost in all eleven killed and forty-three wounded, whilst it suffered a decided check. Next day, however, the effect of the bombardment was seen, when Grant delivered an assault with his land forces. The enemy were found to be demoralised, and surrendered on February 16th. Thus the centre of the Confederate line had passed into the hands of the Union troops. Bowling Green on the right was promptly abandoned, and now Columbus alone was left, to be evacuated on March 2nd.

After the reduction of these works, Grant with a large army was conveyed up the Tennessee to Pittsburg landing. The Confederates, now greatly alarmed, made desperate efforts to crush him, and a great army concentrated around him at Shiloh under General Johnston. On April 6th, 1862, the battle, one of the bloodiest in the war, began. With iron resolution the Southerners pressed forward, and steadily drove the Northerners back on the river Tennessee. On the left the Confederates were massing for a final charge, which should give them not only Kentucky and Tennessee, but Ohio, Missouri, and the West, when unlooked for succour arrived to save the North. As the Southern charge rolled forward, a great mass of yelling men, the *Lexington* and *Tyler* opened an enfilading fire upon them with grape and canister. The

Northern soldiery rallied, and the fortune of the fight was changed. Next day the Confederates fell back, having suffered dreadful loss, and Grant was left master of the Tennessee.

When Columbus fell the Northerners advanced down stream against Island No. 10, and whilst Grant was battling round Shiloh a second Federal army under General Pope, supported by the flotilla, was operating here. There were two channels past the island, which lay in a bend. The northern one was closed by obstructions; the southern barred by Confederate batteries. Above the Confederates lay the Union fleet; below them the Union army.* It was absolutely necessary for the success of the military operations that one or more gunboats should be brought down to the lower reach of the river, when all the Confederate supplies, which came by water, could be intercepted. A canal was cut across the neck of the bend, by which transports could pass from above to below Island No. 10, but the draught of the gunboats would not permit them to use this convenient and direct route. The only course left was for a gunboat to run past the batteries, and the *Carondelet's* captain, Walke, volunteered to accomplish a feat, now attempted for the first time.† There was not a day to be lost, as the Confederate ironclads at various points to the south were approaching completion, and when they were ready the transports below Island No. 10 would be at their mercy. On the night of April 1st, 1862, the way was prepared by a boat attack upon the upper battery of Island No. 10. The work was rushed before the Confederates had time to man the rampart, and seven guns were spiked without the loss of a life. A floating battery,

* General Pope had crossed the neck of the bend and captured New Madrid, thus placing his troops below the Confederate position. By erecting batteries he could in some measure interfere with the transport of Confederate supplies, but as he was on the opposite side of the river to his enemies, he was not able, without gunboats, to cross and attack them. *See* Map IV., p. 74.

† Three weeks before Farragut ran past the forts at New Orleans.

moored at the head of the island, was next day cut adrift by a shell from a mortar boat, and the road was open for the *Carondelet*.

On April 4th, a dark and thundery night, the run was made. The *Carondelet* was protected in her most vulnerable parts by coils of 11-inch hawsers, cables, and lumber. A barge laden with coal and bales of hay was lashed alongside to cover the magazine. Soon after ten o'clock she cast off her moorings, and headed down stream through impenetrable darkness, lighted up at intervals by dazzling flashes of lightning. She passed the upper battery with its spiked guns, unseen, but just as she was leaving it behind, the soot in her funnels caught fire, and its glare betrayed her. Signal-rockets went up, and the enemy stood to his guns. The blazing soot was at once put out, but a few minutes later, when she was opposite the lower battery, it again took fire and showed the Confederates her position. They opened upon her directly, and their shot flew about her, whilst her pilot, Hoel, stood forward upon her deck exposed to every projectile. The swift current, the sudden bends, and the pitch darkness were worse foes than the batteries. After all but running aground under the muzzles of the Confederate guns she passed the works in safety, without the loss of a man, and reached New Madrid. Two nights later the *Pittsburg* followed her example. On April 8th, the Federals reaped the harvest which their brilliant audacity had merited, for on that day Island No. 10, with 5000 men, surrendered.

The next Confederate work to be assailed was Fort Pillow, on which the combined forces of the North now moved. On May 9th, 1862, Foote, who had been wounded at Fort Donelson, was succeeded by Captain Davis; and on the following day eight Confederate rams* attacked the Union squadron. These were river steamers with 1-inch iron on their bow, and a solid

* Their names were the *General Bragg*, *General Stirling Price*, *General Sumter*, *General Van Dorn*, *General Jeff. Thompson*, *Colonel Lovell*, *Little Rebel*, and *General Beauregard*.

mass of timber strengthening it; they had cotton and pinewood protection round their boilers and engines. At the moment when they made their attack a mortar boat in advance of the Federal ships was bombarding the fort. The *Cincinnati*, hastening up to her support, was struck by the Confederate *General Bragg* on her starboard quarter, and a few minutes later by the rams *General Price* and *General Sumter*. She was run in towards the bank in a sinking condition. Following her, the *Mound City* was rammed by the Confederate craft and also compelled to make for the bank. The *Carondelet* fared better. Three rams assailed her, but she drove all off, putting a shot through the *General Sumter's* steam pipe. On this the Confederates retired having rid themselves of one antagonist. The *Mound City* was repaired at Cairo, and the *Cincinnati* raised and put in order.

After this attack the Federals provided themselves with faster vessels for the purpose of ramming. Nine river steamers were purchased and strengthened by adding strong timber and iron bracings, whilst 2 feet of oak sheltered the boilers. The two most famous of them were the *Monarch*, and *Queen of the West*, commanded by two army officers, brothers, of the name of Ellet.* They soon had an opportunity of displaying their valour. Fort Pillow having fallen on June 4th, after a vigorous bombardment, next day the Federals steamed down to Memphis. The Confederates with eight rams in two lines, disposed abreast, moved up to meet them. In front of the Union squadron were the armoured gunboats, while some distance to the rear, hurrying down stream, were the two Federal rams.

As the vessels neared each other the *Monarch* and *Queen of the West* passed the slower gunboats, and headed for the enemy. The *Queen of the West* ran at the Confederate *General Lovell*, and a bow to bow collision appeared inevitable, when

* The names of the others were: *Fulton*, *Lancaster*, *Lioness*, *Mingo*, *Samson*, *Switzerland*, and *Horner*,

the *Lovell* sheered off, and was instantly rammed amidships. The *Queen of the West* cut the Confederate vessel almost in two, but whilst entangled in her was rammed on each side by a Confederate. Sinking, she made for the land, and reached it with one paddle torn away. Meantime the *Monarch*, following her, was charged by the *Beauregard* and *Price* from opposite sides. They missed her, and ran violently into each other, on which the *Monarch* turned on the *Beauregard*. She rammed her, and the unfortunate vessel went to the bottom, having been struck at the instant of collision by a Federal shell, which wrecked her boiler. The *Price* ran ashore seriously injured. The *Little Rebel*, another Confederate, was hit in the steam-chest, and also went ashore. The river was full of drowning Confederates, and the horror of the scene was enhanced by the fact that their friends and relations, who had come out to see them fight, expecting an easy victory, were watching on the bank. With splendid humanity, whilst the battle was raging, the Northern gunboats lowered boats to save their enemies. All the remaining Confederate ships, seeing the fate of their sister vessels took to flight, but two were captured, and another, which took fire during the action, blew up. Only one of the flotilla escaped. Memphis passed to the Federals, and the river was now open to Vicksburg.

On June 17th the *Mound City* captured Fort Charles, on the White River, but with fearful loss. A shot struck her steam-drum, scalding a great number of men, and she had eighty-four killed out of a complement of 175.

The time was now at hand when Farragut, moving up from New Orleans, was to join hands, above Vicksburg, with Captain Davis. Proceeding up the river with his worn and battered ships—ships built not for service on rivers but to fight at sea—he received the surrender of Baton Rouge and Natchez. He had no army to take possession of those places as he passed them, but though he had misgivings as to the expediency of a mere naval promenade, his orders were

peremptory, and he obeyed.* At neither Port Hudson nor Grand Gulf were there strong works as yet, and the disembarkation of a battalion at each of these points might have saved an infinity of trouble. On June 18th the *Brooklyn* and *Richmond* were at an anchor below Vicksburg, and a few days later the other ships of the squadron, with seventeen mortar schooners, arrived. The bombardment of the Confederate works was at once commenced.

This was at that time the last Confederate position on the river, and its strength was very great. The guns mounted were well dispersed, so that it was a difficult task to silence them by bombardment. The batteries were constructed, some upon high bluffs, whence they could deliver a plunging fire with the most telling effect; some on the water level. The current was fast, flowing at the rate of three miles an hour; but notwithstanding these obstacles Farragut determined to run past the forts, and unite his force with Captain Davis' gunboat flotilla above the town. On June 28th, at 2 a.m., he weighed and moved up to the attack, with his ships in two columns. In the starboard column were the *Richmond*, *Hartford*, and *Brooklyn;* in the port column, closer together, the *Iroquois*, *Oneida*, *Wissahickon*, *Sciota*, *Winona*, *Pinola*, *Katahdin*, and *Kennebec*. At 4 a.m. the mortar schooners opened, whilst six steamers of the mortar flotilla also helped to cover the attack. The ships passed the batteries, going very slowly and receiving little damage. The rigging was cut to pieces, and a few raking hits were inflicted upon the hulls, but the Confederate water batteries were silenced when the sailors arrived abreast of them. Just under the batteries, Commander Palmer of the *Iroquois*, noticing that a heavy fire was being directed upon the *Hartford*, stopped his engines and drifted down to support her. But, on learning that all was well, he once more proceeded up stream, and at 6 a.m. the whole of Farragut's force, except the

* He considered that Mobile ought to have been the next point attacked.

Brooklyn, *Kennebec*, and *Katahdin* had anchored above Vicksburg. These ships through a mistake remained below. The losses of the fleet were fifteen killed and thirty wounded.

The two fleets, the one ascending, the other descending the river, had thus met, but Vicksburg was as yet unconquered. It was known that on the Yazoo River, which enters the Mississippi a short distance above Vicksburg, an ironclad was approaching completion, so on July 15th the *Carondelet*, *Tyler*, and *Queen of the West*, were sent up that river to see in what state she was. This ironclad was known as the *Arkansas*, she was of *Merrimac* type, plated with rails three inches thick and carried two 9-inch, two 8-inch, and two 32-pounder smooth-bores, besides four 6·4-inch rifles. She had ram bows and twin screws, but, as was usually the case with Confederate ironclads, her engines were too weak for her. She had started down the Yazoo a little before the Federal ships moved up it, and came suddenly and unexpectedly upon them. The *Tyler* was ahead, and at once turned back to warn the two others, which were following. All three raced down stream to escape their formidable enemy, for which they thought themselves no match. All three as they fled poured in upon the *Arkansas* what fire they could from their stern guns. The *Carondelet*, which was the slowest, soon dropped behind, and was repeatedly hit. The *Arkansas* made a desperate attempt to ram her, but failed, and then passed on ahead. The *Carondelet* might have retired from a hopeless contest with dignity at this point, but, instead of doing so, kept on her course behind her, till at last her wheel ropes were shot through, and she was forced to retire to the shore. She had thirteen hits on her hull, and lost thirty killed and wounded.

The *Arkansas* held on her way behind the *Tyler* and *Queen of the West*, though her crew had never been on a ship before, and were quite untrained. Her funnel had been shot away, so that she could only steam a mile an hour, and her armour was much battered. But on reaching the Mississippi, without any hesitation she headed for Vicksburg past the

Federal fleet. Had the Federal ships been on the alert, she could not have escaped, but they were lying with fires banked and could not get up steam in time to ram her. She passed them, receiving in succession the broadside of each ship, and retaliating with what guns she could fire. Her gallant crew brought her safe to Vicksburg, though not without heavy loss; and under the guns of the batteries she came to anchor. Alone, the *Lancaster* made an attempt to ram her, but was driven off by a shot.

That night Farragut prepared a fresh attack upon the ram. His vessels were to run past the batteries, descending the river, and each in succession to fire upon the *Arkansas*. The plan was carried out and much damage was done to the ram, though she was not destroyed. The total Federal losses in these various operations, were thirty-two killed, ten missing, and seventy-two wounded. The damage to the ships was inconsiderable.

On July 22nd, the *Arkansas* was attacked once more, this time by the *Essex* and *Queen of the West*. The *Essex* first, passing very close to her, fired three 9-inch shots at her casemate, which killed or wounded fourteen of her men; but then, grazing her side, received a heavy fire before she could get clear. The *Queen of the West* followed and rammed the Confederate ironclad twice, but could not sink her, and was compelled to retire much battered and damaged. On August 3rd, however, the *Arkansas'* career ended. Whilst steaming down the river to Baton Rouge, her engines broke down, and she ran aground. On the approach of her old enemy, the *Essex*, her commander fired her and escaped on shore.

After running past the Vicksburg batteries a second time, Farragut had retired to New Orleans with his ships,* and once more the river from Baton Rouge to Vicksburg passed into the hands of the Confederates. Supplies were poured into

* As it was very difficult to maintain communications, or procure coal, and as his ships stood in need of repairs.

the Southern States from Texas by the Red River, and the fatal remissness, which had left Farragut without an army to support his ships, and occupy the positions on the river as they advanced, greatly prolonged the war. The Confederates were triumphant at his retreat, and had only to fear the gun-boats of the river flotilla, which was now augmented by a number of "tinclads"—vessels, that is to say, protected by bullet-proof iron plate—and by five casemated ironclads—the *Lafayette*, *Choctaw*, *Chillicothe*, *Indianola*, and *Tuscumbia*.* Their armour was from 3 inches to 1 inch thick.

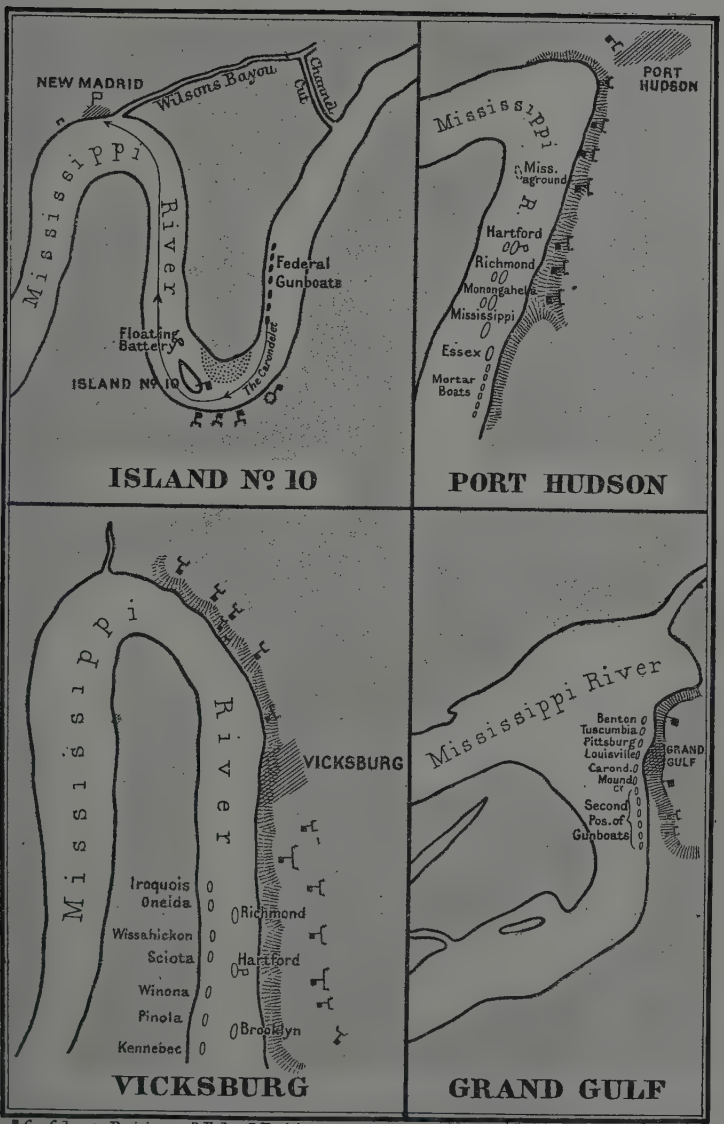
The river flotilla was for the next few months occupied in reducing Confederate ports on the Mississippi tributaries, and in patrolling the river itself. On December 12th, 1862, the *Cairo* was sunk by the explosion of two mines in the Yazoo River. On January 9th, 1863, Fort Hindman, also known as Arkansas Post, was reduced. In the meantime, Sherman and Grant were operating against Vicksburg by land. On February 2nd, the *Queen of the West*, in broad daylight, ran past the Vicksburg works, and deliberately rammed a Confederate steamer which was moored under the enemy's guns. This audacious feat was followed by a wholesale destruction of Confederate stores and steamers on the river. On February 14th, however, whilst ascending the Red River, the Federal ship was attacked by a battery, and ran aground. Her crew were compelled to abandon her, but escaped in a prize—the *Era No.* 5. Returning to the Mississippi, the *Queen of the West's* crew found the *Indianola* had run past the batteries, and was burning and destroying Confederate stores. The *Era No.* 5 was sent up the river to communicate with the Federal force before Vicksburg; but on February 24th the *Indianola* came to her end. She was assailed by the Confederate rams,

* The *Tuscumbia*, *Indianola*, and *Chillicothe* were casemate-battery ships of 560 to 300 tons; the *Choctaw* had casemates aft and a light turret forward; the *Lafayette* had a casemate protected by 1-inch iron upon 1-inch india-rubber. She was a hopeless failure.

Webb, *Dr. Batey*, and *Queen of the West*, the latter of which had been seized by the Confederates when the Federals abandoned her. The *Webb* rammed the *Indianola* at full speed, bow to bow, but, strange to say, neither ship was much the worse. After this, in quick succession, the *Queen of the West* struck her twice, disabling one of her two rudders, whilst the *Webb* charged her stern. She ran aground and surrendered, but only to sink; and some days later the Confederates, who had been attempting to raise her, destroyed her, alarmed by the appearance of a dummy monitor, with funnels made of barrels. This formidable craft, drifting down with the current, quickly ran ashore, but at least served its purpose well.

After this spirited action, there ensued a month of operations, the aim of which was to turn Vicksburg, and find a waterway to its rear. But General Pemberton, the Confederate commander at Vicksburg, was as active and enterprising as his Northern adversaries, and checkmated all their attempts. It was in vain that the ships sawed out a passage through half-submerged forests, and diverted the waters of the Mississippi to disused and forgotten channels. After exertions, which were as fruitless as they were strenuous, the Northerners had to make up their minds to capture Vicksburg by a direct attack. Whilst, however, Grant and Porter* were thus busied above Vicksburg, Farragut, for his part, had not been inactive below. After his retreat from before Vicksburg, the Confederates had greatly strengthened their defences at Port Hudson, desiring to shut out the Northern ships from a reach of the river across which passed a vast amount of corn and provisions drawn from the Red River and the West. On the 14th of March, 1863, he was before the place with his ships lashed together in pairs, the *Hartford* and *Albatross*, the *Brooklyn* and *Genesee*, the *Monongahela* and *Kineo*, and last and alone the *Mississippi*.

* Succeeded Davis in command of the flotilla, Oct., 1862, with the rank of Acting Rear-Admiral.



P Confederate Positions. P Federal Positions.

G. Philip & Son.

Map IV.

Farragut generally prepared the way for his passage by bombarding the works which would attack his ships. He does not appear to have had any great belief in the efficacy of bombardment pure and simple, but as a preparative he would seem to have considered it valuable. Six mortar schooners opened at 11 p.m. that night, and, under cover of their fire, the squadron advanced. On land General Banks* could give support. The night was dark, the smoke of the vessels and the batteries quickly descended in an almost impenetrable curtain upon the water, and great fires lighted on shore added to the smoke, whilst the light they gave was not sufficient to show the Northerners their way. The *Hartford* in the van suffered less from the smoke than the other ships.† Her approach surprised the Confederate gunners, who at first fled from their guns. They quickly returned, however, and poured in a vigorous fire. In spite of this, and in spite of the fact that she touched the ground just under the works, the flagship passed Port Hudson with trivial loss, two men being killed or drowned, and two wounded. The *Brooklyn* was less fortunate. Navigated with infinite care, she passed the main batteries, and only the last remained to be confronted when a plunging shot from it raked her, and damaged or opened her safety valves. Instantly the steam escaped, and the pressure in her boilers fell to 9lbs. The *Brooklyn's* engines stopped at once, and when her motive force had thus been lost, the *Genesee* was not strong enough to drag her forward against the five mile current, and she was compelled to repass the batteries and anchor below. Her loss was three killed and fifteen wounded. The *Monongahela* and *Kineo*, the next pair, steaming up through the dense smoke, lost sight of the other vessels, and missing the fairway, ran aground. The *Monongahela* injured her rudder and stuck

* At the critical moment he failed to divert the attention of the Southerners.

† Her pilot had a clear view, as he was in the mizzen-top, with a speaking-tube to the deck. Mahan suggests that Farragut should have made this precaution compulsory on all the ships.—Mahan, "Farragut," p. 221.

fast, but the *Kineo*, which did not touch the bottom, broke loose, to run aground again after steaming a short distance ahead. Precisely the same misfortune happened to the *Monongahela*, after getting clear. The bridge on which her captain was standing was carried away by a shot, and the captain seriously injured. After remaining some time ashore both vessels at last got off, the *Kineo* coming to the assistance of her consort, and hauling her off the shoals. Yet the *Monongahela's* troubles were not yet over. Nearing the upper battery a crank pin in her engine became heated, and the engines had to be stopped. She drifted down the river, and anchored below the batteries. The smoke had probably saved her.

Last of all came the *Mississippi* and she, too, reached the turn, just below the upper battery, in safety, when suddenly she went aground. There was no consort at hand to tow her off, and though every exertion was made at once, though the engines were reversed and backed with all their force, she could not be moved. She heeled over to port, whilst the Confederates, catching sight of her, opened a terrible fire upon her. Shot after shot struck her, and, though her starboard battery replied with energy, it soon became evident that nothing could save her. Her captain, Melancton Smith, gave orders for her guns to be spiked and thrown into the river, whilst preparations were made to set her on fire. But the hail of projectiles descending upon her rendered it impossible to thus dispose of the guns. The sick and wounded were lowered into the boats, the crew followed, and the ship was fired forward, when three shots came through her hull below the water-line and, letting in the water, put out the flames. She was again fired in five places aft, her captain and first lieutenant remaining on board till the flames had obtained a good hold. They left her ablaze and landed, but as her upper works burnt away, she floated once more and drifted down the river. At 5.30 a.m. she blew up and went to the bottom. Her loss was very heavy, as the killed alone numbered twenty-five.

Farragut had thus received a distinct check. Of seven vessels which had essayed the run only two had accomplished it with success. But none the less he had effected his purpose, and could stop the transport of Confederate supplies.* His total loss was 114 killed or wounded, not perhaps a high price to pay for the blockade of Port Hudson, the fall of which was now inevitable, though had the Federals occupied the place in the preceding year, when for the first time Farragut passed it, this waste of life would have been avoided. He next stood up the river with the *Hartford* and *Albatross*, and was joined by the ram *Switzerland*, which had run past the Vicksburg forts with some damage to her boilers. The *Lancaster*, which had attempted to follow the *Switzerland*, was hit in her boiler by a shell, and sank.

The *Hartford*, *Albatross*, and *Lancaster* now proceeded to destroy all the Confederate stores and steamers that they could reach, and inflicted very severe loss upon the Confederates. On April 6th Farragut arrived above Port Hudson, and being anxious to communicate with his fleet below that place, sent down his secretary in a skiff covered with twigs. The little vessel made her dangerous trip in safety. Next he moved to the mouth of the Red River, down which came all the Confederate supplies, and blockaded it closely.

Meantime Grant and Porter had decided to leave Vicksburg for the time, and to attack the Confederate defences below it at Grand Gulf. To do this it would be necessary to pass the Vicksburg batteries, not only with warships, but with crowded transports. The success of the *Switzerland* in broad daylight had convinced Grant that there would be no unreasonable risk, but his subordinates were far from agreeing with him in this opinion. Against the advice of his council of war the Federal general made up his mind, and

* Porter to Farragut: "Your services at Red River will be a god-send; it is worth to us the loss of the *Mississipi*, and is at this minute, the severest blow that could be struck at the South. They obtain all their supplies and ammunition in that way."—Mahan, "Farragut," 223-4.

with Porter selected the night of April 16th for the attempt. The gunboats to make the passage were the *Benton*, carrying Porter's flag, the *Lafayette*, *Louisville*, *Mound City*, *Pittsburg*, *Carondelet*, *Tuscumbia*, and *Genera. Price.* A tug, the *Ivy*, was lashed to the *Benton*, and the wooden gunboat *Price* was made fast to the *Lafayette*, whilst three transports followed to the rear of the line under the charge of the *Tuscumbia*. Orders were issued that the furnaces should be well alight to avoid smoke, that but a small pressure of steam should be kept up in the boilers, and that the paddle-wheels should only be used by the vessels to keep station and avoid the banks. The squadron was to drift with the current past the forts, and the interval between each pair of ships was to be fifty yards.

A few minutes before eleven o'clock the gunboats were within range, and the firing began. The *Benton* passed the first battery unseen, but as she reached the second, the Confederates lighted a number of tar-barrels and set fire to the railway station, and the flames enabled them to see their targets. Every gun and every rifle-pit opened, and the roar of artillery was deafening. The Northern squadron replied with shrapnel and grape, and greatly disconcerted the aim of the hostile gunners. A storm of shot and shell passed above the ships, but hits were few and far between, and as the Union ships had been carefully prepared by laying logs upon their decks and fastening timber to their sides, little damage was done to them. The pilot houses were ablaze with bursting shells, yet nobody in them was killed. The transport *Henry Clay* was the only vessel lost. A shell exploded in one of the cotton bales used to protect her, and at once set it on fire. As she blazed the Confederate guns concentrated their attention upon her, and hit her with their shells repeatedly, sinking her in a few minutes. A second transport the *Forest Queen,* was disabled by a shot, and had to be taken in tow by the *Tuscumbia*. After being under fire for two and a half hours the flotilla anchored below Vicksburg.

Of the thousand shots which the Confederates are supposed to have fired, only sixty-eight struck the vessels, and these again wounded only fifteen men. The passage of the forts sealed the fate of Vicksburg, which was now closely invested, though it did not fall till July 4th, 1863.

On the night of April 22nd six more transports ran down with the loss of only one vessel, after which a combined attack was made upon Grand Gulf. The works there were placed in a commanding position, and mounted four heavy rifled guns 8-inch, 7-inch, and 6½-inch, besides smaller weapons. At 8 a.m. on April 29th Porter led in the gunboats *Pittsburg*, *Louisville*, *Carondelet*, *Benton*, *Tuscumbia*, and *Lafayette*. The *Benton* and *Tuscumbia* placed themselves close under the guns of the upper battery, and endeavoured to silence them by knocking up their muzzles, whilst the other vessels attacked the lower battery. The latter was silenced after three hours' firing, but the ships could do little against the guns on the bluffs. The current, which runs very strongly at this point, carried the clumsy and feebly engined gunboats from their position under the cliffs, and exposed them to the Confederate fire. The *Benton's* pilot had his foot taken off by a shot, and as the steering gear was damaged, the vessel could not be handled. The *Tuscumbia* was hit repeatedly. One shot struck the shutter of a gun-port, entered her casemate, and killed or wounded many of her gunners. A second port was jammed by a hit, which indented the shutter. A shell entered a third port and disabled every man at one of her 9-inch guns. Her armour was started and portions of it broke loose and fell overboard. One of her engines was disabled, and, after she had received eighty-one hits, it is not surprising to learn that she lost six men killed and twenty-four wounded, many severely. The *Benton* was struck forty-seven times, and her ¾-inch plating was pierced twelve times, whilst four projectiles went through her 2½-inch armour. The *Lafayette* had forty-five hits, and the *Pittsburg* thirty-five. The total loss on board these vessels was—killed, twenty-

one; wounded, fifty-seven. That night the gunboats passed Grand Gulf, to assist the army below the town, and early in May the place was abandoned by the Confederates. The day of the attack upon Grand Gulf to divert the attention of the Vicksburg garrison, a flotilla, included in which were the ironclads *De Kalb* and *Choctaw*, had attacked the Confederate defences at Haines' Bluff on the Yazoo river without any result or considerable loss to themselves.

On May 2nd Farragut handed over the task of watching the Red River to Porter, and rejoined his fleet below Port Hudson, travelling overland. A squadron was sent up the Red River to clear out the Confederates. Without much difficulty it captured an unfinished Confederate work at Fort De Russy, took possession of Alexandria, and destroyed a vast quantity of stores, after which it returned to Grand Gulf, and with the rest of Porter's fleet a few days later retreated up the river to Vicksburg. This place and Port Hudson were the last remnants of the formidable Confederate chain of works upon the Mississippi, and they were now vigorously besieged by the Federal land forces under Grant and Banks. The Yazoo River to the rear of Vicksburg was patrolled by the gunboats, which, on the evacuation of Haines' Bluff by the Confederates before Grant's advance, ascended to Yazoo City. The Confederate commander there was compelled to set fire to his depôts and to three large ironclads which were on the stocks.

On May 22nd a combined assault was made upon Vicksburg by the army and navy. Ammunition ran short on the gunboats before any success had been obtained, and they were forced to withdraw, without, however, having suffered heavy loss. On the 27th the *Cincinnati* was sent to silence a battery, which interfered with the Federal operations on the right of their trenches, but instead of having to face two guns, as had been expected, she was attacked by a powerful masked battery on a bluff, just as she had opened on the small work. The first Confederate shot passed through her below

the water line, and she at once began to fill. Then, as the work got her range, shot after shot came through her weak armour. Her colours nailed to her flag-pole, she made for the bank and got a hawser ashore, but being improperly secured it parted, and let her drift down stream. Her boats were shot to splinters, and her crew had to swim for life under the Confederate fire. Fifteen were drowned and nineteen killed or wounded. She went down, with colours flying to the last. On June 19th, Vicksburg was bombarded by the army and fleet, and this bombardment was steadily maintained by the gunboats in turn for a week. On July 4th the great Confederate stronghold surrendered, and on the 9th the fall of Port Hudson at last opened the river from source to sea.

The great blow had fallen upon the Confederacy. South-east and south-west were now sundered, and a vigilant patrol of the waters of the Mississippi and its tributaries was henceforward maintained by the Northerners. The Confederates from time to time annoyed the gunboats, by the fire of "bushwhackers," ambushed riflemen on the banks of the river, and by suddenly opening with masked batteries, but they made no further attempts to assert their mastery over its waters. What further fighting took place was of but little tactical or strategic interest. The last desperate stand at Vicksburg had exhausted the energy of the South in this direction, and the Northern "Anaconda" slowly tightened its coils upon the Confederacy.

Whilst in the Mississippi campaign the fleet could do little against the Confederate strongholds without the army, the army was equally helpless without the fleet.* It is with the

* Bulloch, ii., 193-5: "I have always thought that the consequences which resulted from the operations of that force in the waters of the Mississippi, were more fatal to the Confederacy than any of the military campaigns. The achievements of Admiral Farragut's fleet enabled General Grant to cross the Mississippi with safety, and to get into the rear of Vicksburg. The fall of that essential position was thus assured. . . . . The entire control of the Mississippi . . . . was a fatal blow to the Confederacy. . . . . There can be no doubt that Generals Grant and Banks dawdled about Vicksburg and Port Hudson for a

fleet that the main credit rests. General Grant's testimony to the work which it accomplished is emphatic :—

"The Navy, under Porter, was all that it could be during the entire campaign. Without its assistance the campaign could not have been successfully made with twice the number of men engaged. It could not have been made at all in the way it was, with any number of men, without such assistance."

Vicksburg was not carried by storm, but starved.* A fleet of gunboats was needed to cut it off from its supplies, for the army could never have prevented the Confederate store-ships from bringing up corn and bacon. And whilst the flotilla interrupted the Confederate line of communications, it covered the Northern line, enabling Grant, Sherman, and Banks to cut loose from their bases on land, because wherever the flotilla could be found there was a base. The stores destined to feed the Confederates before Richmond, at Shiloh, at Vicksburg, and Port Hudson, were burnt or transferred to the Northern camps. The statement that "a vast quantity of stores and food was destroyed" does not convey any very telling impression, but such wholesale destruction had a profound strategical effect upon the conduct of the war. And it can scarcely be doubted that the Federal raids and forays were not without effect on the Mississippi population, disgusting it with the struggle. The result of the loss of the river may be traced in the great rise in the price of necessities in the East. The Southern States were devastated by war ; the whole male population was at the front ; and, therefore, the community was dependent upon the West to an extraordinary degree. Bacon was selling at Richmond in January, 1863, when the West was still open, for 65 to 70 cents. a

considerable time to little purpose, and there is nothing in the published records to show that they would ever have got possession of those strongholds if Farragut and Porter had not opened the great river for them."

* Flour at the end of June was selling there for $1000 a barrel.

pound; in January, 1864, when the loss of the Mississippi had shut off the South from the West, it stood at 4 dollars 50 cents. and upwards. Flour had quadrupled in price, and fetched in the same month of 1864, 195 dollars a barrel.* These were wares which would not be greatly affected by the blockade, and which were drawn mainly from the West.

The navy may be said to have annihilated distance for the Northern army. To recur to General Grant's statement in his memoirs of the war, the gunboats cleared the way into the very heart of the Confederacy. Whither a year's hard fighting and marching could not have conducted the Federal army, thither a fleet brought it in a few weeks. The possession of the Tennessee enabled the army to threaten the heart of the Southern States. Of strategic importance only second to the Mississippi, it was as it were the back-door to the Confederacy, and by it the North entered. Here, too, as in the valley of the Mississippi proper, there was the steady destruction of stores and cotton.

The fall of Vicksburg was hailed throughout the North with the wildest joy. It was, perhaps, the turning point of the war, and Lincoln wrote Grant a most generous letter of praise for the part which he had played. But in that letter the President says not one word of the fleet, which by its constant exertion had rendered the fall of Vicksburg and the operations on the Mississippi possible. Indeed, no one reading the letter would have supposed that the fleet had co-operated in almost every engagement, and twice at least averted defeat.†

The tactical lessons of the struggle upon the Mississippi are not numerous. The actions were mainly between ships and batteries in which the batteries had not the worst of it. They

* *Richmond Dispatch*, Jan. 1863, Jan. 1864.

† In his letter to the Springfield Committee (Aug. 26th, 1863), however, he does justice to the fleet: "Nor must Uncle Sam's web-feet be forgotten. At all the watery margins they have been present. . . . Wherever the ground was a little damp they have been and made their tracks. Thanks to all."

were unable, however, to prevent the passage of ships by night, and could only render it somewhat dangerous by day. In almost all the engagements of this kind the smoke appears to have greatly hampered the gunners on either side. To the smoke was probably due Farragut's comparative failure at Port Hudson. On occasions the batteries were passed, as at Vicksburg by Grant and Porter, with ridiculous ease. The gunners on the Confederate side seem almost always to have fired too high at a moving target; at a stationary target, for example the *Mississippi* or *Cincinnati*, they made good enough practice. With slow-firing guns, ill-sighted and trained with difficulty, as were the heavy cannon of that day, this want of success against ships in motion can easily be understood. The armour of the Federal ships proved, as might be expected, too thin. It ranged from $\frac{3}{4}$ inch to 3 inch, and was attacked by guns of all sorts, from the 8-inch rifle downwards. The unprotected decks in particular exposed the boilers, and the instances are very numerous in which these were hit and damaged. Still it is noteworthy that only four ironclad gunboats on the Federal side were sunk from first to last. These were the *Cincinnati, Indianola*, *De Kalb*, and *Cairo*. The *Cincinnati* alone of the four, fell victim to the gun; the *Indianola* was sunk by ramming, and the *De Kalb* and *Cairo* by mines on the Yazoo River. Thus if their armour did not give these ships entire protection, it was yet proved by very severe tests strong enough to keep them afloat under ordinary circumstances, and strong enough to enable them to face batteries without heavy loss of life.

A feature of the few encounters which took place between ships was the use of the ram. By this means the *Indianola* was destroyed, by this means the *Cincinnati* and *Mound City* were severely injured in the action of May 10th, 1862, and that they were not destroyed seems to have been due to the small size and feeble speed of their Confederate assailants. On the other hand, the Federals sank the *General Lovell*, whilst she was attempting to ram, by ramming; and the *Price* and

Beauregard, whilst endeavouring to destroy the *Monarch* with the ram, ran into each other. There were numerous efforts to ram which lacked decisive result. The conditions were generally favourable to the use of what was at this time a new weapon, since the fighting was done on narrow confined waters, where if anywhere the ram should have produced great results.

The lashing of ships together in pairs was a useful measure in passing forts. If one was disabled her consort might on occasions carry her out of fire, whilst, against guns of low penetrative power, each ship acted in a measure as a protection to the other. The expedient of lashing barges, laden with hay and timber, alongside deserves notice, though against modern artillery this would not be productive of much advantage, whilst it has the undoubted defect of hampering the movements of ships thus encumbered. Deck protection by sandbags and hawsers might be of more avail, and is parallel to the Chinese use of sacks of coal in the war with Japan.

CHAPTER IV.

The Actions off Charleston.

January 1863—February 1864.

The great success of the *Monitor* led the North to order a large number of ships, which were generally of her pattern, but which, with increased displacement, embodied numerous improvements. They were completed with expedition, though they in no case surpassed the record of their prototype, and as fast as they were made ready for sea were despatched to join the Federal squadrons off the Southern coasts. Not the least important of these was the division blockading Charleston. The Northerners were particularly anxious to reduce this city, and not without reason. In the first place it was the centre and hotbed of the Secessionist movement, the virtual capital of "*the* Rebel State," South Carolina. In the second place it was conveniently situated for the blockade-running trade from the Bahamas and the Bermudas. It is a desolate and sandy coast, abounding in long low spits and shallow devious creeks. The Atlantic rollers break upon the shore with tremendous force, when their violence is intercepted by no bar, but here the sand banks encounter the full force of the waves, and protect the port. The harbour is entered by a narrow passage, which was defended both by masonry forts and by hastily constructed earthworks. In the centre of the entrance stands Fort Sumter, and the channel to the south of it is too shallow for large ships. The approach must be made by the Main Ship Channel, which, after running parallel to the coast of Morris Island, at a

distance of never less than half a mile, on nearing Fort Sumter turns lightly to the west. It was swept by the fire of Fort Wagner, and Battery Gregg on Morris Island, by Fort Sumter, and by a whole series of works upon Sullivan's Island, to the north of the entrance—Fort Beauregard, Battery Rudledge, Fort Moultrie, Batteries Marion and Bee, and the New Battery, passing in order from east to west.

The channel was sown with mines of various descriptions, and from a point near Battery Bee, a double line of obstructions was carried across to Fort Sumter, thus prohibiting approach. When the harbour was entered there were further obstructions and yet more forts to be encountered and silenced before Charleston could be reached. The Southern engineers evinced great ability in their defensive measures; everything that the science of the time could suggest was tried, and no precaution was neglected. And not content with a passive defence they had decided to try their fortune against the Northern squadron in a naval engagement. Two small ironclads of the *Merrimac* type were constructed. Their names were the *Palmetto State* and the *Chicora*. Each was armoured with two 2-inch layers of iron upon a pine and oak backing, and each was furnished with a formidable ram. The *Palmetto State* carried four guns, two of which were rifled, and the *Chicora* six smooth-bores. Two still larger vessels, with 6-inch plating, were also building in the harbour.

About four in the morning of January 31st, 1863, the Union squadron, consisting entirely of unarmoured vessels, was off the port as usual. There was a thick mist through which the watch of the Federal *Mercedita* suddenly perceived a strange vessel looming. The challenge was made, "Steamer ahoy! steer clear of us and heave to. What steamer is that?" The new comer made no answer, and the order was given to fire on her as she came on. But as she was approaching on the *Mercedita's* quarter, no guns could be brought to bear upon her. The answer came at last, "The Confederate States' steamer *Palmetto State*," and at the same moment

her heavy rifle was fired, hulling the *Mercedita*, bursting the steam drum of the port boiler, and blowing out four or five square feet of the port side of the ship. A gunner had his leg shot off as he lay in his cabin. Three men were mortally scalded, and the ship filled with steam and smoke. Swinging round, the ram challenged the *Mercedita*—"Surrender, or I'll sink you." The Federal captain was helpless. His ship was filling, and his guns could make no reply. He hauled down his flag, and sent a boat off to the *Palmetto State* to give parole for his crew, on which the ram, without stopping to take possession, ran north, and the *Mercedita's* captain promptly re-hoisted his flag. This very questionable proceeding he could scarcely justify on any ground. His ship had been spared by the ram, and was her lawful prize. Such instances may be expected to occur in any future naval war, and should lead captains to be very careful how they accept paroles.

While the *Mercedita* was thus engaged, the next vessel in the blockading line, the *Keystone State*, had been alarmed by gun-fire near at hand, and shortly afterwards discovered the approach of a strange vessel, which was at first taken for a tug. She thereupon slipped her cable, and fired at the stranger, who responded with a shell. Ordering the guns to be discharged as they bore, her captain stood east, only to run against another enemy, the *Chicora*, on which he turned off to the north, and endeavoured with a full head of steam to wheel sharply and run down the ram. His ship had been set on fire in the hold by a shell, but the flames had been extinguished, when she neared her opponent, and received a hot fire from her. She was struck by shot after shot, one of which pierced both her funnels, injured her port boiler, and exploded in her starboard quarter, thus depriving her of all power to move. She heeled to starboard, and was hit again below her water-line. There were signs that she was sinking, as the water was mounting steadily in her hold, and her crew made preparations to leave her. Their loss had reached

twenty killed and twenty wounded, when the *Housatonic* came to her relief, and the rams fell back. The *Keystone State* was with great difficulty taken to Port Royal, whither the *Mercedita* followed her. The Confederates on their part believed, or professed to believe, for it is not easy to reconcile the accounts of the two sides, that they had driven off the blockading squadron; and even went so far as to take the foreign consuls out of the harbour in a steamer. The consuls reported that they could see nothing of the blockaders, which was, after all, only to be expected as there was a fog all the morning.* Had the blockade been really raised it would have been necessary for the Federals to give fresh notice of its re-imposition, and blockade-runners would have been able to come freely in, provided they left their last port before the notice arrived. It was then a matter of no small importance.

Rear-Admiral Dupont, who was the Northern commander upon the station, had repeatedly asked for ironclads. His request was granted, and the single-turreted monitor, *Montauk*, was sent out to him in January, 1863. She was absent at the time of the above engagement, else she would, it is probable, have disposed of the two rams with the utmost ease. She differed from the first *Monitor* in having her conning-tower placed above the turret, which carried one 15-inch and one 11-inch smooth-bore gun. Her smoke-stack, too, was armoured with eight 1-inch plates, to a height of 6 feet from the deck, which enabled her to maintain a higher speed in action. The pilot-house or conning-tower was stationary, and did not revolve with the turret. The displacement had been increased to 1850 tons, and the armour on the turret was 11-inch instead of 8-inch, but in all essential features the two were identical. The *Montauk* was at once tested against

* The French and Spanish consuls appear to have gone out and unofficially declared that they could see no blockaders. The Northern captains indignantly denied the story of their withdrawal. The day appears to have been hazy, if not foggy, which, perhaps, explains the discrepancy. The Confederate version appears in Scharf, 683; the Federal in Ammen, 81.

earthworks; she was despatched to attack Fort McAllister in Ossabaw Sound, near Savannah, and her commander was also instructed to destroy the cruiser *Nashville*, which was fitting for sea there. The monitor twice engaged the fort, which was an insignificant structure, only mounting nine guns, but entirely failed to make any impression upon it. On the other hand, the fort could do nothing against the *Montauk:* though she was struck repeatedly no damage was done. The honours, however, rested with her, as her commander succeeded in destroying the *Nashville*, which had stranded at a distance of twelve hundred yards from a line of obstructions, placed below Fort McAllister, to prevent the Federals' advance. The monitor lay within easy range of the fort, but paid no attention to it, sending shell after shell into the luckless cruiser, till it took fire, and burned to the water's edge. After this exploit, the *Montauk* was returning, when a torpedo exploded under her. It blew a hole in the bottom, and she had to be grounded, to permit of repairs. When these had been effected, she rejoined Admiral Dupont.

Dupont was now reinforced by six fresh monitors, and two ironclads of different type. The first of these, the *Keokuk*, was a very indifferent vessel, protected by 2-inch armour,* and carrying two 11-inch guns in two oval casemates fore and aft. The second was a fine vessel of 3480 tons, similar in general design to the *Merrimac*, but incomparably more powerful. She resembled the *Warrior* in the absence of armour on her ends. Her battery of two 150-pounder rifled guns and fourteen 11-inch smooth-bores was protected by 4½-inch plates rolled in one thickness, which, in power to resist projectiles, were probably equal to the eleven separate layers of 1-inch plate encircling the monitors' guns. She had, however, this great fault: In spite of a flat bottom, her draught of water was so great that she could only be handled in the shallow channels of the Southern coast with the utmost difficulty.

* She had also a ¾-inch inner skin of iron.

But, in the weight of the fire which she could deliver, she was greatly superior to the monitors with their two guns each. She was christened the *New Ironsides*.

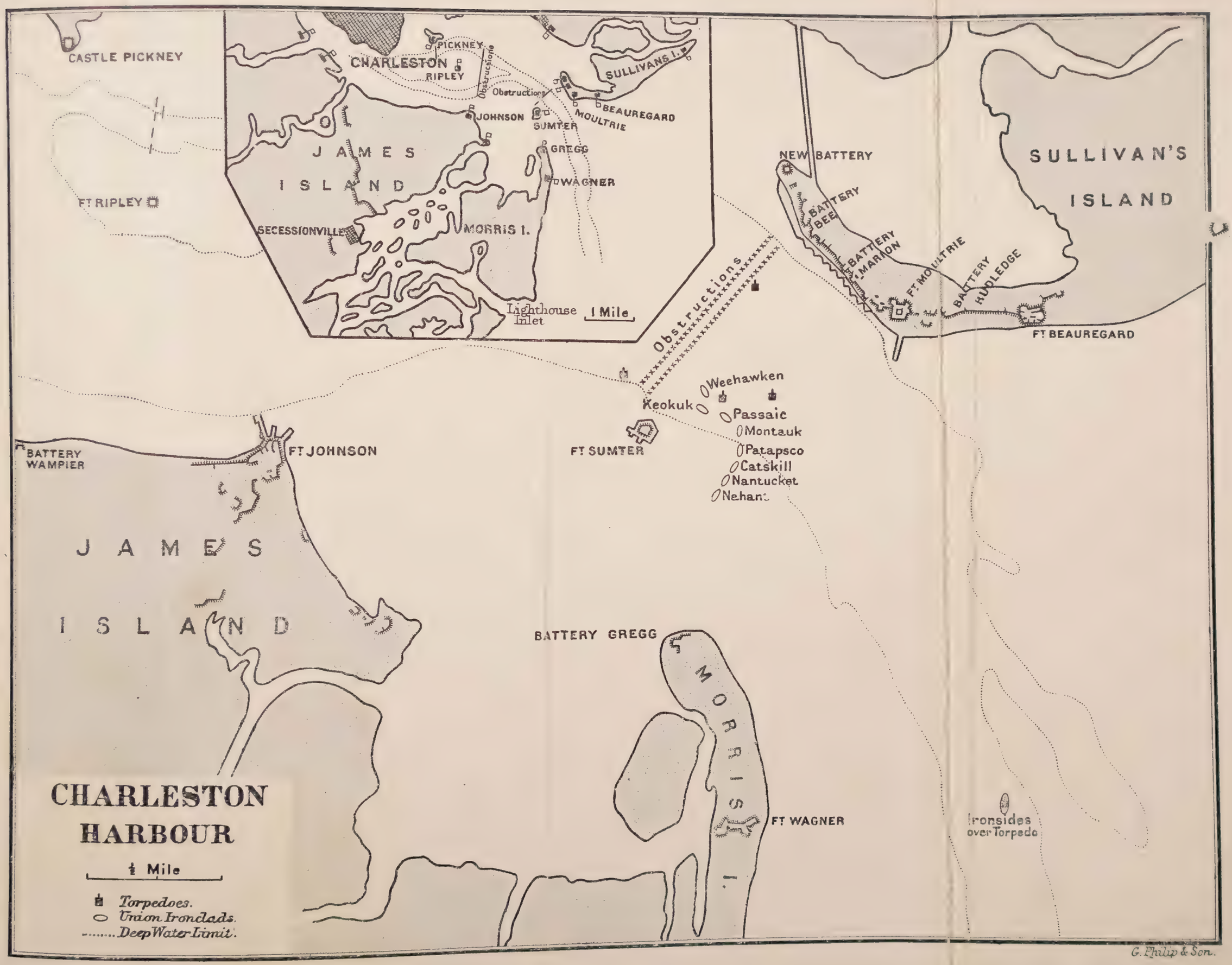
The achievements of the original *Monitor* had conveyed to the minds of Lincoln and his naval advisers, Welles and Fox, an exaggerated idea of the power of this type of vessel. Welles had no practical knowledge of the art of warfare as it then was, but Lincoln was an earnest student of military literature, and Fox, at least, had true strategical insight, and had himself served in the American navy in his earlier days. Ericsson threw cold water upon their project, writing: "A single shot will sink a ship, while a hundred rounds cannot silence a fort, as you have proved. The immutable laws of force and resistance do not favour your enterprise." But they persisted in ordering Dupont to attack. That commander's misgivings were as deep as Ericsson's. He had been brought up in the old school of wood and sails, and, like Farragut, did not take at all kindly to these strange new craft. He greatly feared the disastrous effect which any severe check to his squadron must exert upon the conduct of the blockade; but, however unreadily, he obeyed his orders.

He had nine ironclads to attack the forts, mounting between them seven 15-inch, twenty-two 11-inch, and two 50-pounder smooth-bores, with three 150-pounder rifled weapons. The forts which he was going to attack mounted between them ten 10-inch, nineteen 8-inch, and eighteen 32-pounder smooth-bores, with ten 10-inch mortars, two 8-inch, seven 42-pounder, and eight 32-pounder rifled guns, a total of seventy-four weapons of various kinds.* Though Dupont's guns were much heavier than the Confederate weapons they could not be considered a match for them, and the odds were all against him when he steamed in to the contest.

* Details of the forts' and ships' armaments will be found in Table III As usual, there are slight discrepancies in the authorities.

The ships were ordered to commence their attack on the morning of April 7th. They were to concentrate their whole fire upon Fort Sumter, and to disregard the other batteries and forts. The tide was not, however, full enough to permit of their advance till about one o'clock, and then very considerable delay was caused by a torpedo-catcher which was attached to the *Weehawken's* bows. This was one of Ericsson's many devices, and, like most of them, was viewed with some dislike by American naval officers. It was shaped like a bootjack, the bows of the ship fitting into the angular recess, and was constructed of heavy logs fifty feet long, crossing each other at right angles. Underneath it was placed a series of mines, which would be fired upon contact with any obstruction. Each mine contained seven hundred pounds of powder, so disposed as to project the explosive force forwards. In any sea the movements of this raft were totally different from those of the ship; it rose when the ship fel', and fell when it rose, and the crew of the vessel now feared that it would be cast upon the deck, and now that it would be caught beneath the overhang. There was this further danger, that any accidental collision with a friend, such as must often occur in action, would destroy her, and, in the words of the *Weehawken's* commander, "He would be more dreaded than an enemy."

After some time had been wasted over this treacherous contrivance, the line of ships at last got under way, and approached Fort Sumter by the Main Channel, which, as has been said, passed under the guns of Battery Wagner. Fort Moultrie was the first to open; about 2.50 the first shot was fired at the *Weehawken*, and the Confederate gunners were not slow to pour in their full fire. They knew the ranges, which were marked by buoys, and fired with singular accuracy at the small targets offered by the monitors. For ten minutes the ships made no reply, till at last the *Weehawken* responded. She stood on steadily past Sumter and Moultrie, and was only brought up by the line of obstructions which


CASTLE PICKNEY
FT RIPLEY
CHARLESTON
PICKNEY
RIPLEY
Obstructions
Obstructions
SULLIVANS I.
BEAUREGARD
MOULTRIE
JOHNSON
SUMTER
GREGG
WAGNER
JAMES
ISLAND
SECESSIONVILLE
MORRIS I.
Lighthouse Inlet
1 Mile
NEW BATTERY
BATTERY BEE
BATTERY MARION
FT MOULTRIE
BATTERY HUDLEDGE
SULLIVAN'S
ISLAND
FT BEAUREGARD
Obstructions
Weehawken
Keokuk
Passaic
Montauk
Patapsco
Catskill
Nantucket
Nahant
FT SUMTER
BATTERY WAMPIER
FT JOHNSON
JAMES
ISLAND
BATTERY GREGG
MORRIS I.
FT WAGNER
Ironsides over Torpedo
CHARLESTON HARBOUR
½ Mile
Torpedoes.
Union Ironclads.
Deep Water Limit.
G. Philip & Son.

Map V.

crossed the channel. Here she ran upon a torpedo, her boot-jack proving of little avail, and was severely shaken by the explosion, but not seriously damaged. Finding it impossible to force a passage through the boom, she circled round and headed seawards, still keeping up a vigorous fire, supported by the other monitors and the *Keokuk*. The *New Ironsides*, with Admiral Dupont on board, had been compelled to leave the line, as she had less than a foot of water under her bottom. She halted in the Main Channel, due east of Battery Wagner, and just over a submarine mine containing two thousand pounds of powder, which was to be exploded by electricity from that battery. It failed to explode, as one of the wires had been accidentally severed by a waggon passing over it. From her position the *Ironsides* could do little, but she gave what help she could by occasionally firing a gun.

As the *Nahant* and *Keokuk* neared Fort Sumter, the *Keokuk* all but fouled the former, and had to stand in closer than she had intended to avoid a collision. The Northerners state that she came within 550 yards of the fort, but the Southerners maintain that she was never nearer than 900.* A storm of projectiles struck her; she was hulled ninety times in thirty minutes, and some of the shots went clean through her. Her 2-inch plates were a very delusive protection; on the water-line she was full of holes, and her turrets were pierced.† Her commander was constrained to take her out of fire, and as he ran past the *Ironsides*, communicated the terrible state of his ship to the admiral. He had not lost heavily in men; indeed, nothing is more remarkable than the diminutive expenditure of human life in ironclad fighting of this date, but his ship was no longer battle-worthy.

For rather more than an hour the ironclads faced the forts. Their fire made no impression; they had inflicted the most

* The distance given in General Beauregard's official report. In "Battles and Leaders," iv., 11; however, he states that she came as close as 300 yards.

† "Riddled like a colander." Yet she had not a man killed.

trivial damage upon the Confederate works, and though they themselves had, with the solitary exception of the *Keokuk*, sustained no very serious harm, there was scarcely one which was not in difficulties. Their fire was distressingly slow compared to that of their enemies, the conjunction of the 15-inch and 11-inch guns in the same turret was a most unhappy measure, slowing the fire of the smaller gun to the rate of the 15-inch weapon, which could only discharge one shot every seven or ten minutes. The 15-inch shells, which were to have blown in the masonry of Sumter had done nothing of the kind. For that long hour a great crowd of Southerners—mostly ladies, since the men were all fighting for their country—had watched the action with ever-growing exultation as it became more and more certain that the forts could not be silenced. Even the steeples and roofs of the town were crowded, and could be seen at intervals from the ships, closely packed with spectators.

Admiral Dupont had throughout the fight played, not, indeed, through any fault of his own, a somewhat undistinguished part. His ship, at a distance of a mile had only fired eight shots, yet she had been struck sixty-five times. When he recalled his monitors, he intended to renew the attack next day, but his intention was changed by the reports of their captains. The *Weehawken* had been hit fifty-three times, and had her 11-inch gun temporarily disabled by a shot which bulged in the turret. The *Passaic's* 15-inch smooth-bore was out of action, as the rails on which it ran had been forced together; the pilot-house roof had been lifted, and the turret itself was jammed for a few minutes; she had been hit thirty-five times. The *Montauk* with fourteen hits had hardly suffered at all.* The *Patapsco's* 150-pounder had been disabled by an injury to one of the cap squares, which hold the trunnions down,

* Her captain complained greatly of the want of vision from the pilot-house, which made it difficult to handle the ship. In all the monitor turrets, flying nuts troubled the gunners considerably. The *Ironsides'* armour, on the other hand, behaved well, and there were no flying fragments from it.

and she had been struck forty-seven times. The *Nantucket* had been struck forty-seven times; one port-stopper had been jammed by hits indenting the turret, and the turret had been disabled for some time. Thirty-six hits had scattered bolts about the interior of the *Nahant's* turret and effectually jammed it; it was not in satisfactory working order for a month; the steering gear had also broken down, and left the vessel helpless for some minutes.* The *Keokuk* went down that night and blood-stained clothes were washed ashore from her showing that she had suffered severely. The Northerners had fired altogether only 139 projectiles, of which ninety-six were shell, whilst the Rebel works had discharged 2220, a disproportion which alone would explain the issue.

Dupont's resolution not again to imperil his ships† was impugned by Chief Engineer Stimers, whom we have met before on board the *Monitor*. He perhaps more than anyone trusted in these ships, and believed that they must be successful. He is said to have gibed at his commander before the action for his hesitation, and after it to have said that the injuries to the monitors were insignificant, and that a determined man could have done more. He was tried by court martial for this offence, and was acquitted, but it is to be noted that the commanders of the ships who gave evidence at the trial, were of opinion that there was nothing to be gained by a further attack. The damage to the Confederate forts was slight. One 10-inch gun was temporarily disabled, one 8-inch smooth-bore burst, and two guns were put out of action for a

* A piece of plating weighing over 70lbs was torn from her pilot-house and flung across it, killing the quarter-master, and wounding the pilot.

† Dupont to his chief of the staff: "During the few minutes that we were under the heaviest fire of the batteries, half of our turret-ships were in part, or wholly, disabled. We have only encountered the outer line of defence, and if we force our way into the harbour, we have not men to occupy any fort we may take, and we can have no communication with our force outside except by running the gauntlet. . . . . We have met with a sad repulse; I shall not turn it into a great disaster." "Battles and Leaders," iv., 41.

few minutes by slight injuries.* Seven men were wounded, but only one died from the effect of his wounds. The Northerners lost three killed and eleven wounded.

The attack upon the Charleston forts had thus issued in the repulse which Ericsson predicted. Never before had ships so invulnerable been in action, and probably never again will so many hits be inflicted with such trivial damage and such slight loss of life. If the impenetrable monitor could do nothing against forts garrisoned by resolute men and efficiently armed, what hope of success could our *Royal Sovereigns* or *Majestics* have? Artillery has progressed so much that cannon can be mounted on land which can pierce armour thicker than any ship can hope to carry. Considerations of weight and displacement limit the protection which can be given to the ship, whilst they have no such determining influence on the fort. The ironclad's armour and ordnance then are limited; the fort's unlimited. How can the two fight on an equal footing? There are these further considerations too, to be taken into account. The guns must be crowded into a limited space on board ship, where several may be silenced by a single lucky shot. In the fort a wide space can intervene between each weapon, and if properly mounted, each gun must be actually struck before it is put out of action. Then too, the fort's fire can be directed upon the ship's water-line; hits here will be every whit as efficacious as upon her battery, and she can be driven off without a single one of her guns being struck. Thus a close attack by ships upon forts has become almost impossible, though it is beyond doubt perfectly feasible for war vessels to run through an unobstructed channel, commanded by forts however numerous. The Southern authorities saw this, and therefore placed torpedoes and palisades across the channel. The modern theory of attack upon forts is a long range bombardment, but this presupposes the fact that the situation of the fort is known to

* Fort Sumter was hit in all fifty-five times out of 139 rounds fired, which gives the percentage of hits as forty—exceedingly good practice.

PLATE VI. THE U.S. CRUISER CHICAGO.

the assailant, which may not always be the case. And it may be questioned whether the enormous range of modern rifled ordnance will not be found delusive, if such a bombardment is ever attempted. Accurate as our heavy guns are at short distances, how many shells from a 68-ton gun would fall within the space of an acre at six or seven miles? Against large towns or dockyards such tactics might be successful, but it is very doubtful whether forts could be thus silenced; and, in any case, the waste of ammunition would be immense. The counterpart of this theory is found as far back as 1863, when we see Ericsson urging repeated night attacks upon Fort Sumter. The monitors lay low in the water and offered a very small target, whilst the fort was large and conspicuous. The forts could not have returned the fire of the fleet with any accuracy, and, in the words of General Beauregard, the Southern commander, "this plan of attack could have been repeated every night until the walls of the fort should have crumbled under the enormous missiles which made holes two and a half feet deep in the walls, and shattered the latter in an alarming manner. I could not then have repaired during the day the damages of the night, and I am confident now, as I was then, that Fort Sumter if thus attacked, must have been disabled." But the Northern fleet retired from the contest, and was content to maintain the blockade. It was the mines and obstructions which influenced Dupont in this course of action, and he did well to refuse to risk his ships amongst them. His successor tried every expedient, but obtained no more success.

Shortly after this failure the news reached Washington that a new and formidable ironclad of the *Merrimac* type was being constructed at Savannah. Hearing this, Dupont despatched the two monitors, *Weehawken* and *Nahant*, to look after her. The ship of which they were in search was building in Ossabaw Sound, a little to the south of Savannah. This new vessel, called the *Atlanta*, was a reconstructed English ship which had gone by the name of the *Fingal*.

She had only been lately launched on the Clyde, and was a fine fast steamer of about fourteen knots, when the Confederate Commissioners in England purchased her. The *Fingal* left England in safety in the autumn of 1861, ostensibly upon the errand of blockade running. After a brief delay at Bermuda she reached Savannah, and was prepared for commission as a Confederate commerce-destroyer.* But the Confederates had great need of battleships, whilst they had no foundries capable of constructing engines or machinery; hence it was decided to convert her into an ironclad. Her upper works were removed to the water-line. Upon the iron hull thus left was fastened timber to the height of 27 inches, and this great structure of logs was carried out 6 feet from her sides, tapering down to the level of her lower deck, 8 feet below the water-line, where it ceased. Upon this massive platform, which protected her against the ram, was constructed a casemate amidships, with sides inclined at an angle of twenty-nine degrees. First came a row of pine logs placed horizontally, and then a second vertical layer, the thickness of the two being 15 inches. On this again were fastened 3 inches of oak, and over all two layers of iron plating, each 2 inches thick and 7 wide, the inner horizontal and the outer vertical. The plates were fastened down with $1\frac{1}{4}$ inch bolts, having washers and nuts inside the vessel. The armour was carried down to a depth of 3 feet, outside the timber overhang, and the angle the inclined side made with the deck was filled in with timber till the total thickness of the side, on the level of the gun-deck, was nearly 7 feet. The length of the ship was 204 feet, and her beam 41. Her pilot house rose 3 feet above the casemate, and was formed by the prolongation of the sides. Forward she had a sharp prow, and she was fitted with a spar torpedo. Her battery comprised two rifled 7-inch guns, mounted on pivots forward and aft, and firing ahead and astern, or on either broadside,

* In January, 1862, the entrances to the port of Savannah were closed by sinking hulks laden with stone, and thus the *Fingal* was caught in a trap.

with two 100-pounder rifles, one on either broadside. She was pierced with eight gun-ports, each covered by two 2-inch plates rivetted together, and hung upon a pivot at the top corner. When the guns were to be fired the port-lids were raised by a chain which was attached to their bottom corner, and on the guns being run in, fell back covering the port, by their own weight. The speed of the ship in battle trim was about eight knots, or two knots faster than the monitors. A second vessel after her pattern was under construction, and great things were expected of the two by the Southerners.

With a hundred and sixty-five officers and men on board, and with provisions for an extended cruise, the *Atlanta* set out from Savannah on June 17th. She was accompanied by a large number of Southerners on steamers, anxious all of them to see the Yankees soundly beaten. They had not the slightest doubt that their trusted ironclad would be a match and more than a match for the monitors. The *Weehawken* and *Nahant*, seeing her coming, at once slipped their cables and stood out to sea. The *Atlanta* followed them, only too anxious to try her mettle. She had not long to wait. A few minutes later the monitors, having secured ample sea room for their manœuvres, turned and headed towards her. At a distance of a mile and a half she fired a 7-inch shot, but missed. The *Weehawken* closed with her, and fired her 15-inch gun at a range of 300 yards. The projectile struck the casemate and was not deflected; it shattered the brittle, badly-rolled armour, and drove a huge hole through the side, carrying before it splinters of iron and wood, which wrought dreadful havoc among the gunners. Sixteen were wounded by that single shot. The *Atlanta* fired most ineffectively, not one of her shots hitting the target. This is hardly to be wondered at when it is remembered that she was manned almost entirely by landsmen, who could be expected to do little against the seasoned crews of the Federal ships. She next varied the situation by running hard aground, and was unable to get off

before the *Weehawken* had struck her pilot-house with a second 15-inch shot, which wounded four men and wrecked the structure. A third struck the starboard amidships port-lid and shattered it, starting the wall of the casemate from the deck. After a short engagement lasting only fifteen minutes, the *Atlanta's* commander, recognising that his enterprise was hopeless and that his ship was entirely at the mercy of her opponents, hauled down his flag. He had fired only eight shot and his antagonist five. Nothing is more surprising than the ease with which such a ship, manned it is to be presumed by determined men, was reduced to submission.* The moral of the story is that an untrained crew who are bound to each other by no ties of discipline or friendship—a chance conglomeration of individuals—cannot fight trained men. Had the *Atlanta's* 7-inch rifle-shot struck the *Weehawken* they might have perforated her laminated plating, and the ships would have been on equal terms. But even then there was the *Nahant* to be reckoned with, which had, through no fault of her own, remained a spectator through the action. The *Atlanta*, after the fight, was refitted and served as a Northern guardship in Hampton Roads.

Admiral Dupont's failure to achieve the impossible, and his plain statement of the damage inflicted upon the monitors in an hour's fighting, had not endeared him to the Navy Department. Though his want of success against Sumter had been in some measure redeemed by this success of his subordinates, he was removed from his command and superseded by Rear-Admiral Dahlgren, a great artillerist, who had less dislike for the "tin-kettle" which the progress of naval science had provided in the monitor. He arrived on July 4th, and resolved at once to attack the place a second time.

* In justice to the Confederates we must give their version of the story, which is, that the *Atlanta* ran fast aground whilst attempting to use her torpedo against the *Weehawken*; that she then careened over, and was unable to bring a single gun to bear. But Lieutenant Webb, the Confederate commander on board, makes the significant admission that her men were at once demoralised. —Scharf, 644-5.

Again the impossible was attempted. The first of his series of unsuccessful assaults was made six days after his arrival, when, with his flag on board the *Catskill*, he led four monitors to the attack at four in the morning. He was supported by the Union land batteries, and his assault was delivered, in the first instance, not upon the works at the entrance to the harbour but upon the defences which protected Lighthouse Inlet, to the south of Morris Island. Here he was successful, and when these were silenced, he advanced to the attack of Fort Wagner, approaching it about 9.30. Though it only mounted a small number of guns, the action was protracted for nine hours before the monitors retired. Their crews had suffered terribly from the extreme heat, which led to a brief withdrawal about midday. The injuries to the ships were by no means severe. Sixty shots had struck the *Catskill*, but, as Admiral Dahlgren reported, "she came out of action in good working order." The other monitors were only struck in all eight times. The fort was little the worse for the bombardment.

On August 17th another attack was made. On this occasion the *Weehawken* carried Dahlgren's flag, and led the way soon after six. Fort Wagner was silenced, but the Northerners lost an officer of great promise in Commander Rodgers,* who was killed in the *Catskill's* pilot-house, whilst directing her in the action. A shot struck the top of the pilot-house, breaking the outer plate, and tearing a huge fragment off the inner plate. Bolts and fragments were driven in with great violence, and by these Captain Rodgers and his paymaster were killed instantly, whilst the pilot and the master were wounded. The action lasted about six hours, and in it the *New Ironsides* was struck thirty-one times, eleven times upon her defenceless ends. None of the ships were seriously damaged. On August 23rd a night attack was made upon Sumter. The fort was hidden from the ships by fog for some of the time, but the fire

* G. W. Rodgers. J. Rodgers was in command of the *Weehawken*.

was still maintained, as the bearings had been taken by the stars. Again, on September 1st, Sumter was assailed by night, and on this occasion the fort was nearly silenced, though the ships were hit seventy-one times. The worst injury was sustained by the *Weehawken*. A shot struck the base of her turret, and, by driving in fragments, wounded her captain. There was no other ironclad engagement of any importance before Charleston.

The South was little behind the North in ingenuity and inventiveness. Having no hope of overcoming the monitors by open force, the Southerners determined to try stealth, and turned their attention to torpedo warfare. A torpedo section for the protection of the coast had been formed at the commencement of the war, but at first it offered a merely passive defence by the use of fixed mines and submarine batteries. It now launched forth upon more active measures, amongst the first of which was the construction of boats, either wholly submerged or capable of being sunk till they were flush with the water. Not that there was anything new in submarine craft. During our great war with France a vessel of this description had been brought under the notice of the English Admiralty, who refused to have anything to do with it, not, apparently, because they doubted its capacity to do harm, but because its universal adoption might have imperilled our maritime supremacy. In the war of 1812 it was taken by its inventor, Fulton, to the United States, and, running under the hull of H.M.S. *Ramillies*, as she lay off New London, its crew nearly succeeded in boring through her bottom before want of air brought them to the surface. Early in 1863 a gunboat at Charleston was cut down, and converted into a half-submerged torpedo-boat. It appears, however, to have been abandoned, though it may have been the vessel which, on the night of April 19th, 1864, approached the *Wabash*. The Northern vessel was at anchor when something was seen near her in the water, and challenged. She slipped her cable and went ahead, opening a heavy fire upon the strange craft,

after which it disappeared, whether as the result of a shot or not, is uncertain.

A more determined and dangerous attack was made upon the *Ironsides* on October 5th. The boat used was built by Theodore Stoney, at Charleston, and was named the *David*, a term which was subsequently applied to all submarine craft. She was 54 feet long, cigar-shaped, and at her widest 6 feet in diameter. She was propelled by a screw, which was driven by steam-power. When in fighting trim she lay almost flush with the water, her funnel and steering-chamber alone projecting above the surface. A spar torpedo was fitted to her: it was folded alongside when not in use, and was only run out for the actual attack. With a crew of volunteers, Lieutenant Glassell took her out, and, a little after nine in the evening, the *Ironsides'* watch saw her approaching. She looked to them like a plank, since all that could be seen was the coaming of her hatchway. Several officers were on deck, and the *David* was at once hailed. Her only answer was a volley of musketry, which mortally wounded one Federal officer. An instant later, the ironclad received a violent blow from the explosion of a torpedo, which threw up a great column of water, shook the ship severely, and broke one man's leg on board her. After the smoke and spray had cleared away, the *Ironsides* was found to be uninjured, but the boat had disappeared. Her crew jumped overboard at the moment of firing the torpedo, and Glassell, as he swam about, hailed a Northern coal schooner, on board which he was taken, whilst a second man escaped to the *Ironsides*. The engineer of the *David*, however, after the explosion, swam back to the boat, to which he found the pilot clinging for dear life, as he was unable to swim. Helping him on board, he discovered that the *David* could yet float, though the explosion had put out the fires, and together the two took her back to Charleston.

A much more successful attempt was made on the *Housatonic* by a submerged boat, February 17th, 1864. This boat

was built at Mobile, and brought overland to Charleston. She had lateral fins by which she could be raised or submerged, and ballast tanks to lighten her and enable her to rise to the surface, though these uniformly refused to act. She carried no reserve of air, and hence she proved a peripatetic coffin. On her trial she drowned eight men; she was raised only to go down once more through the inrush of water into an open manhole, caused by the wash of a steamer. Lieutenant Payne, her commander, alone escaped by leaping out of her as she went down. Raised again, she sank again, and again Lieutenant Payne escaped, this time with two companions. A third time she was raised, and a fourth time sank, having caught her nose in the bottom, and on this occasion all on board were drowned. Once more she was recovered only to foul the cable of a schooner at anchor in the harbour, and to sink for the fifth time. She was recovered yet again, and Lieutenant Dixon, with Captain Carlson, both officers of the Confederate army, volunteered with five others to take her out against the Northern fleet. Their heroism was rewarded, and they exploded their torpedo under the *Housatonic*, which sank rapidly, drowning five men. All on board the submarine-boat perished. A year or two after the war she was found by divers on the bottom, a hundred feet from her opponent; and the men on board her were still at their posts. Certainly the South did not want brave men.

A word may here be given to the Southern torpedo department. From first to last torpedoes accounted for thirty-two ships of which four were monitors and three armoured gunboats. Most of these losses were due to fixed or floating torpedoes, and very few to boat attacks. Attempts were made upon the *Memphis* in Edisto River in March 1864, and upon the *Minnesota* whilst at anchor in Hampton Roads in April of the same year.* Neither of these was successful. There were other explosions which may have been caused by

* Table XXV.

torpedoes, though we cannot be certain, since the Confederates employed a particularly deadly engine, which was called a Coal Torpedo. It looked like a lump of coal, but was really a block of cast iron containing 10lbs. of powder, and would when placed in the fires of a boiler at once explode, bursting the boiler. Such a torpedo might be planted with effect in stores of coal at a coaling station in case it was certain that they would fall into the enemy's hands. Clockwork torpedoes were also employed, and one of these was used at City Point, James River, on August 9th, 1864. It was placed on board a barge, which was loading with ordnance stores for the Federal Army, by two Confederates disguised as workmen, with the remark that the captain had ordered it to be put there. It exploded and destroyed a large number of barges and vessels.

CHAPTER V.

The Exploits and Destruction of the *Albemarle*.

April to October, 1864.

Albemarle Sound is a deep inlet in the coast of North Carolina, running back some sixty miles from the sea. As on many parts of the Southern coast, we find here an inner sea inclosed by islands and sandy spits, and from this Albemarle Sound branches off. The narrow passage between the northern and southern portion of this inner sea, just south of Albemarle Sound is commanded by Roanoke Island which had been captured by a Federal Expedition, supported by the fleet, early in 1862. The Confederates saw with alarm the presence of the Northerners in these waters which gave access to the heart of North Carolina, and, indeed, threatened the rear of their army before Richmond. They made two ineffectual attempts to expel their enemies from Pamlico Sound which lies to the south of Albemarle Sound, but on each occasion their attempts were foiled, mainly by the naval forces of the North. It became evident to them that their only road to success was through the naval control of the inland sea, and to secure this they needed ironclads.

The work of constructing an armoured vessel of *Merrimac* type was intrusted to Captain Cooke, a Southern naval officer of great ability. The vessel was laid down some miles up the Roanoke, at Edward's Ferry, in an open cornfield, early in 1863. As usual there was the greatest difficulty in procuring iron for her armour and bolts. Captain Cooke scoured the country far and wide for the precious metal, carrying off old

rails, bars, and bolts, till he became known as the "Ironmonger Captain." The design was prepared by Constructor Porter who had planned the *Merrimac*, but as the vessel was sunk early in her career, we lack precise particulars. She was built in great haste of unseasoned wood; her length was 122 feet, her breadth 45 feet; whilst the draught was only 8 feet. The casemate, placed amidships, was protected by some 2 feet of pine with two layers of 2-inch iron plate over it. To forge bolts, and work up on the spot the iron that was obtained, her constructor had no large engineering shops, but only an open blacksmith's forge. The engines procured from the Tredegar Works, at Richmond, were two, each driving one screw, and had a nominal horse-power of 100 apiece. The armour was rolled at the same works. The armament of the *Albemarle*, as she was called, was not particularly formidable. She carried two 100-pounder rifles, one forward and the other aft. Both pivoted, and could be used for end-on or broadside fire.

The Northern commanders were fully aware of the construction of the *Albemarle*, but whilst the naval officers who would have to meet her, were filled with apprehension, they in vain urged the general* commanding the land forces to join them in an expedition whose object should be her destruction. The general either could not or would not see that she was any menace to him. She was nearing completion on April 18th, 1864, when, with unusually high water she descended the river.

All that morning and afternoon the workmen were busy putting the last touches, whilst her crew were drilling at her two guns. Ten portable forges were on board, and Captain Cooke, standing on the pilot-house, gave his orders: "Drive in spike No. 10," alternated with "Load with cartridge"; "On nut, and screw up hard," with "Load with shell—prime." At five in the afternoon her forges were landed, her decks cleared, and the ship made ready for action. At three

* General Foster.

o'clock in the early morning of April 19th, the high water enabled her to pass the obstructions which the Northerners had placed across the river to prevent her descent. On her way down she was fired upon by a Federal battery at Warren's Neck, whilst picket boats also gave the alarm.

In the river was Lieutenant Flusser, of the United States Navy, having with him the gunboats *Miami* and *Southfield*. He had fastened them together by spars and chains, intending to catch the ram of his opponent between them, and then board her. Captain Cooke, however, was one too many for the Northerners. Whilst the gunboats waited for him in mid-stream, he took the southern side of the channel, under a sharp fire from them, which did his armour not the smallest harm. Then, as he approached the two Federal vessels, he charged the *Southfield*, which was nearest to him, turning across the river at full speed. His ram went ten feet into her; the two ships were entangled, and instantly the *Southfield* began to sink, carrying down with her the Confederate ironclad. The *Albemarle's* bows were right under water, and a flood was pouring in through her forward ports, when the *Southfield* rolled off her ram, and allowed her to right herself. The *Southfield* went to the bottom with most of her crew. Whilst the *Albemarle* was thus held fast by the Federal gunboat, Flusser, on board the *Miami*, had aimed, at very close quarters, a 9-inch shell at her side. It struck nearly at right angles, was shattered, and the fragments flew back on him, instantly killing him. Seeing that nothing could be done, the *Miami* steamed down the river, thus leaving the Confederates in possession of the upper waters of Albemarle Sound.

Admiral Lee, who was the Federal commander, at once despatched a considerable flotilla of wooden ships, under Captain Melancton Smith, to watch the *Albemarle*. Amongst these were the *Sassacus*, *Mattabesett*, *Wyalusing* and *Miami* —all light-draught paddle-steamers. The *Miami* was fitted with a spar-torpedo, and with nets to foul the *Albemarle's*

propeller. The instructions to the Northerners were to fire on the ports of the Confederate ship, to get close alongside, to hold her till she could be torpedoed, and to use the ram.

On May 5th, the *Albemarle* came down to battle, accompanied by two smaller vessels. Her crew were all landsmen, and she had no trained gunners, so that the disparity of strength was not so great as it appeared. At 4.40 she opened fire on the Federal ships, and a few minutes later two heavy shells from her struck the *Mattabesett*, wounding six men. The *Albemarle* followed up her broadside, and strove to ram, but the *Mattabesett*, with a great superiority in speed, was easily able to elude her. The two ships passed close, and a tremendous fire was concentrated upon the *Albemarle* by the gunboats, which were steaming up, delivering their broadsides, then turning above the ram and repeating their fire. On the *Albemarle* the funnel was riddled, and the outer layer of plates much cracked; the boats were torn away, and one gun was injured. At ten minutes to six the first and last attempt to ram was made by the Federals. The *Sassacus*, 400 yards from the ironclad, backed to get full room to strike her blow; then with a full head of steam, using oil and cotton waste in her furnaces, bounded on the *Albemarle*. She struck her with a speed of eight or ten knots, on the starboard quarter, depressing the *Albemarle's* stern and twisting her own bows badly in the collision. The *Miami* should have been at hand to plant her torpedo under the Confederate, but she was handled unskilfully and failed to hit her. Meanwhile the current swung the *Sassacus* round so that the ram's guns could be brought to bear upon her. Two 100lb. shells were fired into her; the first passing right through her, the second piercing a boiler and filling the ship with steam. The crew suffered terribly: thirteen men were scalded, some fatally, whilst the utmost confusion prevailed. At the height of the turmoil the cry of "boarders" was raised, but the efforts of the Confederates to carry her in this way were repelled by the small-arms men, who fired

vigorously into the grating on the top of the casemate. For thirteen minutes the two combatants were entangled, hidden in a dense cloud of steam, whilst the other Federal ships looked on aghast, and made no attempt to support the gallant *Sassacus*.* Her crew had already returned to their guns, and through the steam fired steadily. But it became necessary to draw the fires of her remaining boilers as there was danger of their explosion. Into the scalding stokehold Engineer Hobby led his men and accomplished his dangerous task. The *Sassacus* was left helpless, though she had by now got clear of the ram. The stream carried her away from the *Albemarle* to the other ships, and both sides retired.

It was evident that the wooden ships could not destroy the ironclad. No monitors could be spared, so only one expedient remained, the use of torpedoes. The *Albemarle* lay some miles up the Roanoke River. On the night of May 25th, Coal-heaver Baldwin, with four volunteers, having two torpedoes in a boat, set off up a branch of the Roanoke. They landed and carried their implements across a narrow stretch of swamp, which separated the branch from the main stream in which the *Albemarle* lay. Two of them had then to swim the Roanoke; after which the two torpedoes were connected by a line and guided down stream by Baldwin, who wished to place them across the *Albemarle's* bows and explode them. The plan miscarried as the torpedoes fouled a schooner; Baldwin was discovered by a sentinel, but effected his escape. He with two others took refuge in a swamp, and returned to the ships, after an absence of thirty-eight hours. The remaining two did not get back till two days later still, after undergoing many hardships in the swamps, and only just escaping the Confederates who were searching for them.

On this failure it was decided to attempt the destruction of the ram by a boat attack. Two steam launches†—the pre-

* This inaction may have been due to the fact that the *Wyalusing* signalled she was sinking.

† 45 to 47 feet long, and 9 feet 6 inches in beam.

cursors of the modern torpedo-boat—were built at New York; they were decked in at the bows, and the engines were made to work so smoothly that, when running slowly, there was scarcely any sound. Each carried a 12-pounder howitzer and a long spar which could be run out and fitted with a torpedo. On the way to Albemarle Sound one of them was lost; the second arrived safely, and was placed in charge of Lieutenant Cushing. This officer was only twenty-one years old, but he had repeatedly distinguished himself by his daring exploits, and had shown that he possessed all the qualities requisite in a torpedo-boat officer.

On the night of October 26th he made his first attempt with a picked crew. Unfortunately the boat ran aground and could not get afloat again till day was at hand. The next night was dark and stormy, well suited for his purpose. He started at midnight having in tow a small cutter. The *Albemarle* was known to be lying off Plymouth; a mile below that place was the wreck of the Federal gunboat *Southfield*, which was used as a picket station by the Confederates, and guarded by twenty-five men stationed in a schooner. They had with them one gun and rockets, to give the alarm in the event of a torpedo attack being attempted. Cushing intended to surprise the men on picket duty with the cutter, and having mastered the outpost, to proceed to the real business of the expedition—the capture of the *Albemarle*. He intended to land near the town, make a rush for the ironclad, board her, and carry her off down stream before the alarm could be given. It was known that she had only a small crew on board. As the last resource, if she could not be cut out in this way, he had his torpedo with which to destroy her.

All went well. Light showers at intervals helped to hide the outlines of the audacious boat, which was slowly stealing up stream, keeping as close as possible to the bank, in order to be hidden by the shadow of the trees. At half-past two she was abreast of the *Southfield*, whose wreck stood up from the water plainly visible to the launch. The Confederates were

not on their guard, and did not see her. Without troubling the picket Cushing went on, and as he rounded the bend of the river, saw that the fires, which the Confederates usually kept burning at this point to light the approach to the town and prevent surprise, had burnt low. He was proceeding, drawing near to the shore to land, when a dog suddenly gave the alarm. The boat was instantly challenged and fired upon; rattles and bells aroused the careless watchers, and the fires were fed with fuel. The glare betrayed him; surprise was hopeless; but the ironclad was near at hand, and the torpedo might still be used with effect. The launch went full speed at her, but discovered that she was surrounded by logs. Cushing retreated about a hundred yards and ran at her the second time, hoping that his little vessel would jump the logs, and so enable him to explode his torpedo under the *Albemarle's* hull. The bullets were flying about him when he made his rush. As he approached he shouted, "Leave the ram; we're going to blow you up," and fired his howitzer. The launch jumped the logs in accordance with his expectations; the torpedo was lowered, and touched the ironclad's hull. When he felt it strike, he pulled the string; the torpedo exploded with a dull roar; a column of water rose; and the *Albemarle* heeled visibly, whilst the water rushed into her. He was not a moment too soon; a port-hole had opened, and the party found themselves looking down the muzzle of a loaded 100-pounder, crammed with canister, and not thirty feet from them. It was fired as the explosion lifted the ship, and its charge in consequence missed the boat. As it was, Cushing's clothes were riddled with bullets, but he himself escaped without a scratch. The rush of water and the jar of the explosion had, however, disabled the torpedo-boat. The Confederates were calling upon the men in her to surrender, and several of them complied with the demand. Cushing was not disposed to follow their example. Casting off all his incumbrances he leapt into the river, and swam off down stream. Half a mile had been

covered when he met one of his crew, already exhausted, and strove to support him. His own strength failing him, and the man being past help, he was forced to abandon him and make for the bank, where he got ashore with great difficulty, and hid himself in a swamp. A negro brought him food, and the news that the *Albemarle* had received her death-wound. The next night he found a boat, and rejoined the squadron.

Only two men were drowned in this brilliant and dashing exploit, but nineteen were taken prisoners, Cushing alone escaping. The gain was, however, well worth the loss. The Federals were rid of a most dangerous opponent, and were henceforward left in undisputed possession of the Sounds. To Cushing, and the Confederate "Davids" before Charleston, is due the modern torpedo-boat, which no longer uses the spar but the automatic Whitehead. We may note that the Confederates, from shorthandedness, maintained a very insufficient watch; probably the dog alone saved the *Albemarle* from capture. There also appears to have been some friction between the captain of the ironclad and the commander of the land forces. The cordon of logs proved illusory; its modern equivalent is the boom, to which we shall not trust too much if we are wise. The coolness and dexterity with which Cushing managed his awkward torpedo are remarkable. He had four various strings, fastened to his hands or feet, and if any one of these had been pulled at the wrong time, the attack must have miscarried.

Cushing received the thanks of Congress, and was promoted. After the war the *Albemarle* was raised and sold at Norfolk. Between this date and the end of the war there was some desultory fighting in the Sounds, in the course of which the Federals lost the *Otsego* and *Bazley*, sunk by torpedoes.

CHAPTER VI.

Farragut at Mobile Bay.

August 5th, 1864.

The town of Mobile lies in southern Alabama, distant thirty miles from the open waters of the Gulf of Mexico, at the head of the bay to which it gives its name. The bay is a wide and shallow sheet of water, having two entrances, neither of which is of any great width: the one leads into it from Mississippi Sound, a long island-enclosed inlet, which runs as far as the mouth of that great river, thus affording communication with it, without the necessity of entering the Gulf. The other channel is the Main Ship one, and is parted from Grant's Pass,* by which name the entrance from Mississippi Sound is known, by Dauphin Island, a low sandbank.

Anticipating a Federal attempt to enter the bay, the Southerners early took precautions to defend the approaches. In the centre of Grant's Pass stands Fort Powell, to which a line of obstructions was carried out from the shore on either side, till only a narrow passage for ships was left. The Main Ship Channel was similarly closed by a line of piles, though the deep-water entrance, less than a mile wide, was not thus obstructed. It was, however, commanded by the guns of Fort Morgan, which stands at the seaward extremity of a narrow sandy spit. Fort Morgan had a formidable armament, the details of which are as follows, though, as constant changes were made in it, it is not certain whether all these guns were

* This channel was not practicable for Farragut's heavy ships.

in position when the Northern fleet made its attack.* There were seven 10-inch and three 8-inch columbiads, or large smooth-bore shell guns, besides eleven 32-pounders. Of rifled muzzle-loading guns there were two of 8-inch calibre, two of 7-inch, seven of 6½-inch, and three 5·8-inch. The fort itself was a pentagonal, bastioned, brick building, of old-fashioned design, carrying its guns in three tiers. It was greatly strengthened by the addition of traverses inside and by colossal piles of sandbags outside, whilst an exterior earthwork, known as the Water Battery, had been thrown up containing twenty-nine guns, amongst which were four 10-inch smooth-bores, one 8-inch rifle, and two rifled 32-pounders.

On the other side of this entrance, but distant two miles from the deep-water channel, stood Fort Gaines, which was armed with three 10-inch and twenty smaller smooth-bores, besides four 32-pounder rifles. Across the deep-water channel the Confederates placed 180 torpedoes in a double line, but a narrow passage 300 feet wide was left just under the guns of Fort Morgan, for the ingress and egress of blockade-runners. The termination of the line of mines was marked by a red buoy. Of the mines the most effective were those made of lager-beer kegs, coated with pitch, which were forty-six in number. They were fitted with a number of sensitive primers, generally five or seven, which would be exploded by contact with a ship's hull. The other 134 were tin or iron cones with the apex downward. They contained an air chamber in the upper part, and a powder charge in the lower, and they were anchored in position with old iron grate bars. Placed at a depth of 7 feet they carried on their upper surface a trigger, which, when jarred, exploded the charge. These torpedoes corroded in the water, and quickly became harmless, but the lager-beer kegs were more satisfactory. In addition there were three submarine mortars in the main channel, which could be exploded by electricity from Fort Morgan.

* Report of U.S. Ordnance Officer: Mahan, Gulf, p. 253; Scharf, p. 552.

The submarine defences of Mobile Bay were thus well adapted to cause hostile ships very serious injury, and, had all been in perfect working order, Farragut's fleet might have met its fate in the channel.

At Mobile, as at Charleston, the Southerners were not content with a wholly passive defence. Early in 1863 five small gunboats were commenced at Selma, some distance up the Alabama River, where the Confederates had improvised a shipbuilding yard. Later in the same year they set to work on a far more formidable vessel, the *Tennessee*, which was the most powerful ironclad built in the South. Her hull was of oak and yellow pine. She was 209 feet long; her beam was 48 feet; and in fighting trim she drew 14 to 15 feet of water. Her general design was similar to that of the *Merrimac*, and like the prototype of the Southern ironclad vessels she carried her battery in a casemate placed amidships. It rose 8 feet above the deck, and sloped at an angle of forty-five degrees. It measured 78 feet by 29, and was protected, first by 2½ inches of oak, then by beams of yellow pine 13 inches thick running vertically, over which again were 5½ inches of pine and 4 of oak. Facing this mass of timber was iron plating in two 2-inch courses, over which again was one extra layer of 1-inch thickness on the sides and stern of the casemate, whilst forward this course was 2 inches thick. The total thickness of armour thus varied between 5 and 6 inches; it was well rolled, tough, and greatly superior to the general run of Confederate plating. It was manufactured at the Atlanta Rolling Mills. A pilot-house projected 2 feet above the roof of the casemate at the fore end. The casemate was covered with a grating of 2-inch iron bars, whilst the deck was protected by 2 inches of armour. The hull was defended against attacks of the ram by a solid knuckle, which was formed by prolonging the slope of the casemate 2 feet below the water-line, and then inclining it inwards to meet the hull. Upon this timber projection 4 inches of iron were superimposed. There were ten gun-ports, three on each side, two forward, and two

aft, but they gave very little room for training the gun. They were closed by sliding shutters of iron plate 5 inches thick. The battery consisted of one 7·12 inch 110-pounder rifle, pivoting forward, and another aft, whilst on each broadside were two 6·4-inch 95-pounder rifles. The most serious defect of the ship lay in the exposure of her rudder chains; through an oversight they were carried outside the armoured deck astern, on which they lay in full view. Her engines were also bad; on trial she made only eight knots, and with her battery and equipment on board, six. Her port-shutters were liable to jam; she steered badly; and worst of all Admiral Buchanan, who had fought the *Merrimac* so well, and was now in command on this station, could not obtain trained officers or seamen; 138 men in all formed the complement of the vessel; in this number there were eighteen officers included.

When completed she had still to be got out into the bay; her draught was 14 feet, and before she could enter deep water she had to cross the Dog River mud-flats on which there were only nine feet of water. To get her across them, the Southern engineers constructed camels or caissons of pine, which fitted her hull; they were then filled with water, submerged and fixed on to her, after which the water was pumped out till the vessel was lifted to the required extent. The caissons had been constructed once, when they were burnt just before they could be used, and the work had all to be done over again. In the meantime the Mobile papers were full of fierce complaints of the hesitation and delay of Admiral Buchanan.

Surely men have seldom achieved so much with so little. The South had embarked upon the war without any of the engineering appliances which the North possessed in such abundance. Iron was scarce and the country was scoured for it; foundries and factories where it could be worked up were still scarcer. The Southerners were a people of planters, not of mechanics and engineers; yet in the hour of their trial they

displayed the splendid resourcefulness of the race from which they have sprung. The ships they turned out were no match for the Northern monitors for fighting in inland waters, but they were wonderful. Well might the South accept defeat, which the lot of war brought them, with resignation; they were beaten, not disgraced; they were overwhelmed, not conquered.

At last after two weary months' delay the *Tennessee* was lifted across the flats. It was intended to take the blockaders by surprise, and May 18th was selected for the day. Unfortunately, when the ironclad had crossed the bar and made ready for the fight, it was found that the water was so low that she had gone aground. The camels had perforce to be cast off to prepare her for action, and without them she did not float. Morning dawned to reveal her presence to the Federals, and surprise was no longer possible. She was taken down at high water to Fort Morgan where she remained practising her crew. With her were three gunboats, the *Selma* mounting three 8-inch smooth-bores and one old 32-pounder, which it was dangerous to discharge; the *Morgan* with two 7-inch rifles and four 32-pounders, and the *Gaines* with one 8-inch rifle and four 32-pounders. All were paddle steamers ill-adapted for use in war, and all were destitute of armour, though some slight protection was given to the boilers.

We must now turn to the Northern fleet. In command of it was Farragut, who may justly be termed the American Blake. He had already won for himself a splendid reputation by forcing his way up the Mississippi, and he was to add fresh lustre to it by his conduct at Mobile. He combined in an eminent degree scientific knowledge of his profession and courage, and was endowed with the faculty of instinctively doing the right thing at the critical moment. He had carefully weighed every chance of the attack, and had only decided upon the formation, in which to fight, after hours of study, with small wooden models of his ships. As before, at New Orleans, he neglected no precaution which knowledge or fore-

sight could suggest; and as before, knowledge and foresight, backed by daring, were crowned with the success which they merited.

He had already asked for ironclads that he might force his way into the bay, for without armoured ships he could not hope to contend with the forts and the Confederate *Tennessee*. At last his request was granted. The double-turreted monitors *Winnebago* and *Chickasaw*,* each of 970 tons,† and armed with four 11-inch smooth-bores in turrets protected by 8½ inches of armour, and the larger *Tecumseh* and *Manhattan* of 1034 tons,† carrying each in one turret protected by 10 inches of plating, two monster 15-inch guns, were sent him. He decided to attack upon August 4th, and to this end made all his preparations.‡ Besides the monitors, he had a fleet of fourteen wooden ships, mounting between them, ten 11-inch, one 10-inch, seventy-seven 9-inch, and twenty-seven 32-pounder smooth-bores, with two 150-pounder, eleven 100-pounder, two 60-pounder, and seventeen smaller rifled guns. Including the ironclads, the weight of metal projected in one round by his fleet was 14,246lbs.§

The wooden ships fixed their chain cables along the side which would be turned to Fort Morgan, in the way of the engines and boilers. Nets were rigged inboard to catch splinters; top hamper was removed; sand bags were placed on deck to prevent injuries from plunging shot;‖ and one vessel at least, the *Richmond*, built a huge barricade of 3000

* These were river-service monitors with steam-rotated turrets and four screws, built on the Mississippi by Mr. Eads.

† Old measurement.

‡ He wished to attack on a flood tide, with a west wind which would blow the smoke clear of his ships, upon the Confederates. On the 5th, the wind was south-west.

§ For details of ships' armament *see* Table IV.

‖ These gave most effective protection. "Fort Morgan hulled each ship repeatedly as it passed, but the chain-armour and sand-bag barricades saved every one from being disabled."—Scharf, p. 562.

sand bags along her starboard side and athwartship at both ends, to protect her from raking fire. The boats were landed or lowered. Further, to avoid the chance of any ship being disabled in her engines or machinery, and left helpless under the fire of Fort Morgan, Farragut ordered that the unarmoured vessels should be lashed together in pairs, the stouter and larger ship to starboard,* the smaller and weaker one to port. Of such pairs there were seven when the attack was made, and the ships advanced in the order in which the names are given. First came the *Brooklyn* lashed to the *Octarara;* next the *Hartford* carrying Farragut's flag, with the *Metacomet*; then the *Richmond* and the *Port Royal*; the *Lackawanna* and the *Seminole*; the *Monongahela* and the *Kennebec*; the *Ossipee* and the *Itasca*; whilst the *Oneida* with the *Galena* brought up the rear. In every case the ship first mentioned was on the starboard side.

As two of this fleet were absent on August 4th, Farragut did not make the attack that day, but put it off to the 5th, when they would be present. He spent the afternoon of the 4th in reconnoitring; then, returning to the fleet, made his final dispositions. He had originally intended to lead the attack in his flagship, but was with difficulty persuaded by his officers to send the *Brooklyn* first, as she was fitted with an apparatus for countermining, and had a better bow fire.† The monitors were to precede the unarmoured ships in single file, this being their order: *Tecumseh*, *Manhattan*, *Winnebago*, *Chickasaw*.‡ When all was ready, Farragut went down to his cabin, and wrote a letter to his wife: "I am going into

* Right side, looking ahead.

† To his concession on this point, he attributed the loss of the *Tecumseh*, as he would have gone inside the buoy, and the other ships would have followed him. He pointed out afterwards, that exposure is the penalty of rank in the navy, and that the enemy will always endeavour to destroy the flagship wherever placed.—Mahan, "Farragut," 270-1.

‡ They were to occupy a position slightly to the right of the column of wooden ships, between them and the forts.

Mobile in the morning if God is my leader, as I hope He is, and in Him I place my trust. If He thinks it is the place for me to die, I am ready to submit to his will."* Amongst the officers and seamen there was the same seriousness and the same determination. To every man that might be his last night of life.

Farragut's sleep was uneasy, as well it might be. He was going to do a thing which had not hitherto been attempted. In the teeth of guns and torpedoes† he was about to run through a narrow passage, where his ships would fight at the utmost disadvantage, and, this done, he was going to encounter a most powerful ironclad. Works and obstructions little more formidable had kept back Dupont and Dahlgren at Charleston, though they possessed an ironclad fleet. It must have seemed to many a fool's errand, but the wisdom of it was to be proved. Before daybreak the admiral had made known his decision to go in, and at once the ships were alive. The final touches were added, the decks were sanded, and the crews took their breakfast. At 5.30 the signal to get under way was made, and directly the ships formed line ahead for battle. At 6.30 they had crossed the bar, and were nearing the fort.

Farragut himself had chosen a position in the rigging whence he could command a good view of the engagement. As the smoke mounted, he climbed higher and higher up the shrouds, till, in fear that he should lose his balance and fall, an officer was sent up to lash him in his place. On board the *Hartford* were several officers of the Army Signalling Corps, to communicate with the Federal land forces. As it was important that they should not be injured, they were sent

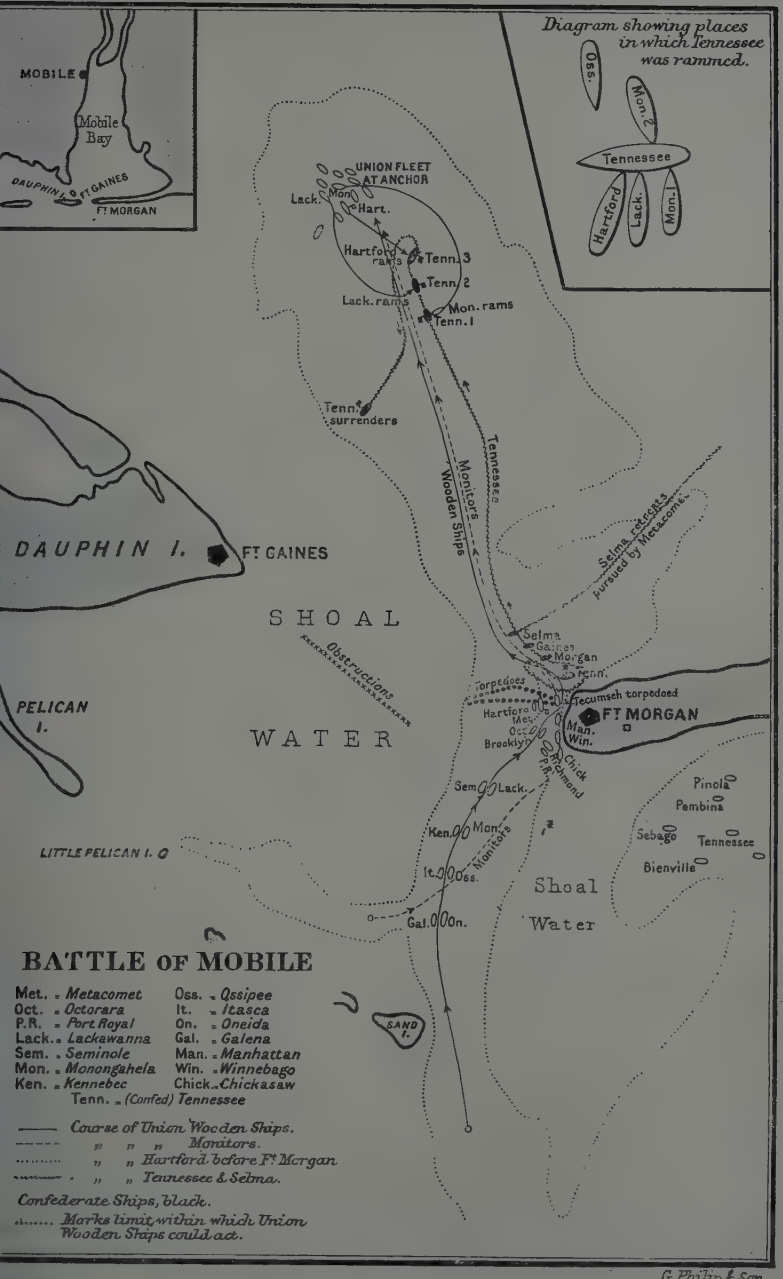
* "As the day of the last and . . . . the most desperate battle of his life drew near, a certain solemnity . . . . is perceptible in the home letters of the Admiral."—Mahan, "Farragut," 265.

† There were no torpedoes at New Orleans, and there was no ironclad there to compare with the *Tennessee*. On the other hand there was no adverse current at Mobile.

below to the stifling cock-pit, to wait till they should be wanted. Here they sat expecting the commencement of the conflict. It seemed to them an age before the dull boom of cannon announced that the fight had been opened. Presently there came the thunder of Fort Morgan, still distant, and then as the *Hartford's* great broadside of 9-inch guns bore, the ship quivered from end to end with the vehemence of their fire.

The *Tecumseh*, leading the line, discharged her 15-inch guns at 6.45, and one of her shells burst above the fort, but no reply was made as yet. At five minutes past seven the Confederates opened, and their shot began to fall amongst the ships. All the Northern vessels were to pass up the narrow channel just under the guns of Fort Morgan, keeping carefully to the right of the red buoy which marked the end of the line of torpedoes. The monitors, as has been said, were in advance, but, owing to their low speed, they were quickly overhauled by the faster wooden ships, and there was some little confusion. The *Brooklyn's* bow chasers were in action at ten minutes past seven, and the other ships' five minutes later. Meantime the Confederate vessels had stood out to the centre of the channel, just above the line of obstructions, as from this position they could rake the approaching fleet. Their fire was particularly galling and destructive. They struck the *Hartford* repeatedly, tossing splinters in all directions over her deck, though the netting did good service.

The *Hartford* went slowly forward. At 7.30 she was abreast of the fort and fairly engaged. The Confederate fire was now hot. A shell struck the *Metacomet*, beheaded a man, and burst in a storeroom, setting the oil and paint, which were kept there, on fire. The ships had closed up, at Farragut's order; the monitors were doing splendid work, so near in to the fort that the officers could be heard directing the Confederate gunners. It was now that the critical point of the battle occurred. The monitors were hindering the advance of the wooden squadron, the leading pair of which, the *Brooklyn*



G. Philip & Son.

MAP VI.

and *Octarara*, slowed down and dropped back on the *Hartford*. The line of ships was slowly curling up in the narrow passage, and the strong current at the same time carried them athwart the channel so that the guns of the fort could rake them. The *Brooklyn* began to signal "The monitors are right ahead; we cannot go on without passing them." Farragut signalled back "Order the monitors ahead, and go on;" but the *Brooklyn* had stopped, and was already across the channel, whilst the *Hartford* was compelled to back, and also drifted across it. The Confederates' fire grew furious, and though it was concentrated mainly upon the *Brooklyn*, in the belief that she was the flagship, the *Hartford* did not escape. Her foremast was struck twice as, luckily for her, the Confederates fired high; otherwise she must have been sunk. A man lost both his legs, and, throwing up his arms, they too were carried off by a fresh shell. A projectile exploded between two of the forward 9-inch guns, killing or mangling fifteen of the men who served them. The decks grew slippery with blood, and on the port side of the ship where the dead lay, the row grew steadily longer under its canvas covering. The monitors were doing their best to help their hard-pressed admiral, and they, too, were suffering. The *Winnebago's* after turret was jammed; the *Chickasaw's* funnel was riddled, and her draught had fallen; the *Manhattan* could no longer use one of her two guns. Yet in the storm of fire Commander Stevens, of the *Winnebago*, walked quietly from turret to turret along the shot-swept deck, and Commander Perkins, on the top of the *Chickasaw's* turret, was waving his hat to his friends.

Farragut was growing uneasy. The *Brooklyn* must go forward if the day was to be gained. To that effect he signalled. The answer came, "Torpedoes." She could not or would not move, as the empty shell boxes cast into the sea by the Confederates came drifting down upon her, and her commander took them for torpedoes. It was now that Farragut swore his one recorded oath, and best displayed his great qualities as a commander. "Damn the torpedoes," he

cried, amid the terrific uproar. "Damn the torpedoes. Go ahead. Four bells"—the signal for full speed.* The resolve was all the more heroic because at that moment the *Tecumseh*, boldly disregarding the line of torpedoes, and seeing the *Tennessee* near at hand on the other side of them, dashed at her. There was not room for her to turn, and she went across the fatal line. The *Tennessee* was awaiting her onset; the two ships were so near that the eye holes in their respective pilot-houses could be easily discerned, when there came a dull muffled roar; the water suddenly lifted beside the *Tecumseh*, and as it sank the monitor lurched heavily; her bow plunged, her stern rose in the air, the screws raced as they no longer met the resistance of the water, and with ninety-three men she went to the bottom.†

As the ship sank Craven, her commander, and the pilot met at the man-hole, which gave an exit from the pilot-house to the turret, and so from the interior of the ship. One only could pass at a time. Craven it was who drew back with the words, "After you, pilot." They were his last words. The pilot escaped, but as he reached the last rung of the ladder to the turret, the vessel dropped from under him, and Craven went down with her. Such deeds deserve mention, for they raise war from a mere vulgar slaughter of men on a large scale to the height of a tragedy which chastens and ennobles. Craven has won the immortality which he deserved.

There is some dispute as to the precise time when the *Tecumseh* sank, but it must have been about a quarter to eight. Either just before or just after, the order to go ahead was given on the *Hartford*; the flagship's engines moved;

* "In this extremity, the devout spirit that ruled his life . . . . impelled him to appeal to Heaven for guidance, and he offered up this prayer: 'Oh, God who created man and gave him reason, direct me what to do. Shall I go on?' And it seemed as if in answer, a voice commanded, 'Go on!'"—Mahan, "Farragut," 277. His flag-lieutenant had previously reconnoitred the line of torpedoes, and failed to discover any mines. This fact may have had some influence upon Farragut's decision.

† Scharf gives her complement as 141, of whom twenty-one were saved.

she slowly cleared the *Brooklyn*, backing at first, then shot ahead through the smoke, and took the lead. But to take the lead she had to pass over the line of torpedoes. A deathly silence pervaded the ship as she made her venture, whilst the line behind her slowly regained order. All watched her intently. The torpedoes could be heard grating against her bottom; they were apparently of the cone type, and had corroded, whereas those which sank the *Tecumseh* had been placed in position only a short time before. After moments long as eternity to the men whose lives were in jeopardy, the *Hartford* safely passed the torpedoes, and went to meet the *Tennessee*. The *Brooklyn* still lay across the channel behind her, and the *Richmond* was being swept down by the stream upon the *Brooklyn*, whilst the admiral was left unsupported. The *Richmond* had to back, but maintained upon Fort Morgan a heavy fire, which repeatedly drove the gunners from their guns. The water in which she was manœuvring was so shoal that at times she had not a foot to spare under her keel. Luckily, however, at this pass the Northern ships were very close to the fort, or indeed, right under it, and the wind carried their smoke upon the Confederates, blinding them, and disconcerting their aim; but, even as it was, the loss was heavy, though the great volume of the hostile fire passed above the ships. At last, twenty-five minutes after she had engaged, the *Richmond* got clear of the *Brooklyn* and stood past the fort, whilst the *Brooklyn* also turned her head up channel and followed her. The rest of the line were passing the fort when a new antagonist appeared. The *Tennessee* on the *Hartford's* approach had fired at her a 7-inch rifled shell which, it was hoped, would sink her. It struck her, but not on the water-line, and tore a huge hole which would have proved fatal if the blow had been delivered a little lower on her hull. The *Tennessee* then endeavoured to ram, but her very low speed and her indifferent manœuvring power frustrated the attempt. The *Hartford* turned and eluded her, and the Confederate ironclad proceeded down

the channel, and made for the *Brooklyn*. The crew of the *Richmond* were ready to run their ship upon her, whilst she was entangled in the *Brooklyn*, which they thought could scarcely escape. The guns were loaded with heavy charges and with solid shot; and preparations were made to throw powder bags down her funnel from the yards. She did not succeed, however, in striking the *Brooklyn*; to ram a vessel of superior speed and handiness under way, even in a narrow channel is no easy work, as Buchanan now discovered. He fired two heavy shots into the Northern ship, whilst her projectiles rattled upon his armour harmless. Passing the *Richmond*, he made a third unsuccessful attempt to ram, and again received a broadside which did him no harm. Again he fired two shots, but, either because of defective primers or because the Northern small-arms' fire disconcerted the Confederate gunners, the shots went wide. He next sheered and tried to ram the *Lackawanna*, which came fourth, but here again he failed, and only placed his ship across the channel, giving the *Monongahela* a good opportunity to ram the *Tennessee*.

The *Monongahela*, which had a bronze beak fixed to her stem, ran full tilt at the Southern ship, but being hampered by the *Kennebec*, which was lashed to her, only struck a glancing blow which tore off her own beak, and did the *Tennessee* no harm. The ram, now on the port side of the Federal line, fired her guns into the *Kennebec*. A shell exploding on board the latter vessel started a fire, whilst a second took off the legs of the *Monongahela's* first lieutenant, mortally wounding him. The *Tennessee* next passed the *Ossipee* on the starboard, firing two shots into her, and then running past the *Oneida*, strove to give her her fire, but the primers missing, only one shot was discharged which struck the Northern ship's after pivot-gun.

At twenty minutes past eight the *Tennessee* had cleared the Northern line, delivering, as the *Oneida* left her, a raking fire into that vessel. At that moment the *Winnebago* came up to the rescue, and planted herself between the two ships amidst

a thunder of cheers from the *Oneida's* men. Stevens was still outside the turrets of the monitor, and took off his hat in acknowledgement of his reception. The monitor fired her four guns loaded with solid shot into the ram, upon which the *Tennessee* retired under the shelter of Fort Morgan, and the first stage of the battle was over. The ships had passed the Confederate works without a single one being sunk by gun-fire, and Farragut's daring had been amply justified.

With the passage of the forts, Farragut's work at Mobile was practically accomplished. He had placed his ships to the rear of the Confederate works, which were thus closely blockaded, since Federal troops cut off their land communications. As Forts St. Philip and Jackson had fallen at New Orleans, so Forts Morgan and Gaines must inevitably succumb at Mobile. The *Tennessee,* indeed, was still intact under the guns of the fort, but she was clearly doomed to capture or destruction. It was Farragut's intention to attack her after dark with the three surviving monitors. She was armed with long-range rifled guns, and had a far lighter draught than the Federal wooden ships, though the monitors could have followed her anywhere. It is hard to understand, then, what considerations led Buchanan to anticipate Farragut's purpose, and encounter the concentrated strength of the Union fleet. Probably it was the desire to vindicate his reputation, much assailed in the Southern press, by some brilliant deed of arms. He may also have hoped to force his way through the Federals to Mobile. But his tactics should have been, as has been pointed out, a long-range attack upon the wooden ships from the shoal water. Manœuvring there, he could have kept away from the monitors, which were no faster than his own ship, and might have inflicted much damage. The monitors' heavy smooth-bores were useless at any but the shortest range.

On clearing torpedoes and forts the *Hartford* had turned her attention to the Confederate gunboats. The *Metacomet* was cast loose, and at once proceeded in chase of the *Selma* which was retreating up the bay. She was supported by the

Kennebec, *Port Royal*, and *Itasca*, which had now been freed from the heavier ships; but a heavy squall came on and in some degree hindered the pursuit. Under cover of it the Confederate *Morgan* escaped to the shelter of Fort Morgan, whilst, just before, the *Gaines* had been struck below the water-line by a 9-inch shell from the *Hartford*. A few minutes later she was hulled by an 11-inch shell which flooded her magazine, and drove her commander to run her aground. The *Metacomet* followed the sole remaining vessel up the bay, risking the chance of going aground in the shallow water. Shortly after nine the weather cleared, when the *Selma* found that the powerful Union ship was across her bows. A brief action followed, in which the *Metacomet's* heavy fire told decisively upon the weak Southern ship. After suffering heavy loss, her commander hauled down his flag and surrendered, to be warmly greeted by his old friend Jouett who was in charge of the *Metacomet*. The two officers sat down to breakfast as though no difference had parted them.

The rest of Farragut's fleet had anchored above the fort at 8.35. Some smaller vessels endeavouring to follow them and come up past the Confederate works were very severely handled, one being sunk,* which shows that the Northern fleet had by no means silenced Fort Morgan. In all, that work had fired 491 projectiles. The crews of the ships were busy clearing away the traces of the battle, removing the dead bodies and mutilated human fragments. This done they took a meal. The respite, however, was no long one. At ten minutes to nine the *Tennessee* moved slowly out from Fort Morgan and headed towards them. It was indeed a desperate errand upon which she was bent. Alone, with a total fire of only 6oolbs., she was going to attack a whole fleet, whose weight of metal was twenty-five times hers. Though she had been able to inflict little damage, when supported by the powerful battery of Fort Morgan, she was going to confront

* The *Philippi*, set on fire, and abandoned.

three heavily armoured monitors and fourteen wooden ships, unaided herself. On board her were Admiral Buchanan, a sailor, fully equal in daring, if not in tactical skill, to Farragut, and Captain Johnston. But she had no other trained officers, and her crew were landsmen. The Northern ships slipped their cables, and got under way.

So far the *Tennessee* had suffered little injury. Her plating was dented and part of her funnel had gone, reducing her speed, till it probably did not exceed five knots. Farragut signalled to his ships as she drew near, "Attack the ram, not only with your guns, but bows at full speed;" and dispatched his surgeon to the monitors with orders to them to at once join in the attack. The first effort to ram was made by the *Monongahela*, which getting up full speed, ran at the *Tennessee*, and struck her, about half-past nine, amidships on the starboard side where the casemate joined the deck. The shock was great, but no damage was done to the *Tennessee*, nor could the point where the blow had been delivered be discovered after the battle. The knuckle was a most effective protection, for certainly without it she must have gone to the bottom. Few modern ships could withstand such a blow. As the two vessels collided, the *Tennessee's* heavy guns were fired into the *Monongahela*, wounding three men; and the Union ship delivered a broadside, which did no harm, though the guns were depressed and the shot struck at right angles. A few minutes after the *Monongahela* had cleared the ram, the *Lackawanna* made a charge, striking the *Tennessee* on the port quarter, but again no harm was done. Both ships swung round, and lay side by side for a few minutes. As the *Tennessee's* ports were opened, a sharp fire of small arms was directed upon them from the Northern ship, and a Northern gunner threw a holystone into one of the unshuttered ports, hitting a Confederate who was abusing the North. The *Tennessee's* shells started a fire on the *Lackawanna*, which was quickly got under, whilst the one 9-inch gun, which the latter could bring to bear,

shattered one of the *Tennessee's* port-shutters, driving in a hail of iron fragments, and doing considerable damage.

Buchanan and Farragut were each eager to engage the other, and now the two flagships approached end-on, as if to ram. A bow-to-bow collision would probably have sunk both ships, but whichever swerved missed his blow. Of the two, Farragut was the more resolute; he declined to sheer, and the *Tennessee* gave way, since, had she run into the *Hartford's* bows, she must have gone down with her. The *Hartford* passed, grazing the *Tennessee*, and had her anchor bent out of shape by the collision, whilst her 9-inch shot rebounded from the armour of the ram not ten feet away. The *Tennessee* attempted to return her fire; once more all her primers but one failed, and the *Hartford's* crew heard their clicks. The *Lackawanna*, in the meantime, had circled round, and was approaching to repeat her blow, when she collided with the *Hartford*, striking her on the starboard side, and driving in her timbers. In the collision, Farragut had a very narrow escape; and as he climbed over the side to see what damage had been done, it was feared that he had been knocked overboard by the shock. The cry arose, "Save the admiral," and not till he reappeared on deck were his men reassured. He ordered full speed ahead, to again ram the *Tennessee*, and at the same time indignantly signalled to the *Lackawanna*, "For God's sake get out of our way and anchor!" The signal was made, but never received on board the other ship.

The monitors were at last arriving to succour the wooden ships. The *Manhattan* came up astern of the *Tennessee*, whose officers saw "a hideous-looking monster creeping up on our port side, whose slowly-revolving turret revealed the cavernous depths of a mammoth gun. 'Stand clear of the port side,' I shouted," says the narrator, Lieutenant Wharton. "A moment afterwards a thunderous report shook us all, while a blast of dense, sulphurous smoke covered our portholes, and 440lbs. of iron impelled by 60lbs. of powder admitted daylight

through our side, where, before it struck us, there had been over 2 feet of solid wood covered with 5 inches of solid iron. This was the only 15-inch shot that hit us fair. It did not come through; the inside netting caught the splinters, and there were no casualties from it." In all the *Manhattan* fired six of her huge projectiles. With her were the *Winnebago* and *Chickasaw* pounding the after end of the casemate* which was quivering at every blow, and on the point of giving way. The steering tackle had been shot away; one gun was disabled; three of the port-shutters were jammed; the funnel had broken off short within the casemate, which was filled with coal smoke and unbearably hot; and all the guns were in action at the same time. The *Tennessee* was fast becoming a helpless, inert mass of iron, when Buchanan gave orders for her to steer for Fort Morgan that she might obtain a respite. He sent for an engine-room hand to knock the pins out of the jammed shutters, and so permit them to fall away and uncover the ports. The man was busy, leaning against the side, when a shot struck the casemate just outside where he was at work, and the concussion shattered him and scattered his remains about the deck in a horrible manner, "like sausage-meat," says Captain Johnston. Numerous nuts and fragments were driven in, and a piece of metal struck Buchanan's leg, breaking it below the knee. He was carried down, and the command of the ship passed to Captain Johnston.

For twenty minutes longer the *Tennessee* in hopeless plight faced her opponents. She could not fire a gun nor do any more harm. Obviously further resistance was useless, and Johnston, perceiving this, obtained Buchanan's consent to a surrender. A white flag was thrust through the grating, which covered the casemate, but as this was not seen by the Northerners it became necessary to pass outside into the storm of projectiles and display the ensign of defeat. With

* With steel square-headed bolts.

great courage Captain Johnston undertook this painful and dangerous task himself; about ten he stood on the *Tennessee's* upper deck and waved the white flag. It was seen by the *Ossipee* which was approaching to ram, and she reversed her engines, though she could not avert a collision. The Federal flag was hoisted amidst a burst of cheering from the victors, and through one of the *Tennessee's* ports scrambled the first Federal, Surgeon Palmer, who was instructed to attend to Buchanan.

On the *Tennessee's* armour were forty to fifty indentations, but no shot had penetrated. The 15-inch projectile of the *Manhattan* had knocked a hole through the armour and backing, leaving an undetached mass of splinters bent inwards, 3 feet by 4 feet square. The leakage of the ship was six inches an hour, due probably to the repeated rammings she had undergone, though it may have been caused by the pounding of the heavy shot. Towards the after end of the casemate the armour had been started. Yet her total loss in men was only two killed and nine wounded. She had thus protected her crew well, and if she had possessed higher speed and better arranged steering tackle, the issue of the battle might have been very different. A ram must be fast if it is to effect its purpose.

On the Northern side the losses were very much heavier. The *Hartford* came first, with twenty-five killed and twenty-eight wounded; the *Brooklyn* followed her, with eleven killed and forty-three wounded. Including the men drowned on board the *Tecumseh*, the total loss was 145 killed, 170 wounded, and four prisoners, who escaped from the *Tecumseh* and swam to Fort Morgan. The Confederate total, including those disabled on board the three gunboats, was twelve killed and twenty wounded; whilst 127 unwounded prisoners were taken on the *Tennessee* alone.

The behaviour of the Northern crews under this severe ordeal was admirable, and surprises us the more as many of them were but raw recruits. Of them Farragut spoke thus:

PLATE VII.

H.M. TORPEDO RAM POLYPHEMUS.

See ii., 228.

"I have never seen a crew come up like ours. They are ahead of the old set in small arms, and fully equal to them at the great guns. They arrived here a mere lot of boys and young men, and have now fattened up and knocked the 9-inch guns about like 24-pounders, to the astonishment of everybody. There was but one man who showed fear. . . . This was the most desperate battle I ever fought since the days of the old *Essex*." From first to last they fired steadily and slowly, nor did they lose in *morale* when they were under Fort Morgan and the line of ships was curling up. It is easy to explain this skill in gunnery, for the heavy smooth-bores differed little in anything, except size, from the weapons with which Nelson fought. An intelligent man would quickly learn how to use them, though with the far more complicated modern artillery such knowledge could not be obtained so readily. The action was fought on smooth inland waters, not on the rough surface of the open sea, which put landsmen on a footing of equality with seamen. But it is certainly difficult to explain how it was that in the Northern fleet discipline and coherence were so quickly gained. Probably the men who were serving off Mobile were carefully picked. In his report on the United States Navy in 1863, the Secretary of the Department states that he found great difficulty in obtaining seamen. "While every sound and able-bodied man of proper age can be made into a soldier, there are comparatively few of our population who can be made into sailors. The latter may be considered experts." We should beware of imagining that we can secure in 1895 the results with untrained men which were obtained in 1864. The conditions of war have changed.

Mobile demonstrated a second time that determined commanders can pass the strongest forts, if an open channel is left for their movements. The increase of speed in ships has, indeed, been met by increased rapidity in fire of guns everywhere, but this fact we may suppose to be as true to-day as it ever was. It is a matter of no little importance when we

consider the position of the Russian Black Sea fleet, which, in the face of the enmity of Turkey, may be expected to run through the Bosphorus and Dardanelles. To prevent such movements, forts on shore and mines in the fairway must be employed in combination, and supplemented by a mobile defence in the shape of torpedo-boats.

After the battle the forts were isolated and reduced in succession. That which would have taken a military force alone months to accomplish was performed by the fleet, in combination with the army, in a few days. Fort Powell was evacuated that same day after a bombardment by the *Chickasaw*. On the 7th Fort Gaines surrendered, and on the 22nd Fort Morgan. Though the bay had passed wholly into the control of the Federals it was full of torpedoes, and continual losses were caused by their constant explosions. March 12th, 1865, the *Althea* was destroyed; March 28th the *Milwaukee*, a very large monitor; March 29th, the *Osage*, with a loss of two killed and ten wounded; April 1st, the gunboat *Rodolph*, with fifteen killed or wounded; April 13th, the *Ida*; April 14th, the *Sciota*, with ten men; the *Itasca*, with a loss of eleven; and the *Rose* with a loss of five. The Confederate Torpedo Bureau did its work well.

CHAPTER VII.

The Capture of Fort Fisher.

January 15th, 1865.

The last naval operation of the Civil War was the capture of Fort Fisher. This work stood at the mouth of the Cape Fear River, upon the sandy spit which is known as Federal Point, and commanded the approaches to Wilmington. It was a position of the utmost importance to the Confederates, as its loss would quickly bring about the fall of the other defences of Wilmington, none of which were of very great strength; whilst the fall of Wilmington in turn would produce the most disastrous effects. From it Lee's army in front of Richmond was kept supplied, mainly through the activity of blockade-runners, and the great Confederate commander had plainly informed Colonel Lamb, the officer in charge of Fort Fisher, that the Confederates must fall back from before Richmond, through inability to procure food, if the port was lost. Except Charleston, which still held out, but was now very closely pressed, it was the last harbour on the coast line of the Confederacy open to the blockade-runner; the last channel of communication with the outer world. The doom of the South was already sealed, but it yet remained to be seen how long the obstinate and dogged resistance to overwhelming resources could be protracted.

The most extraordinary care had been lavished upon Fort Fisher. It was a work as strong as could be made by the arts of the engineer and artillerist, but there had been one great oversight in selecting its position. It was placed too

near the mouth of the Cape Fear River, where it could be reached by the guns of the heavy ships. Had it been traced higher up, it could only have been assailed by monitors, as the depth of water would not have allowed the approach of the frigates and sloops. Experience showed that monitors, from the slowness of their fire and the diminutive number of guns, which they mounted, were totally unfitted to contend with forts, and thus it might have defied capture. On the other hand, the blockade of the port would have been easier had the Federals been able to lie in the mouth of the Cape Fear River.

The actions, which we have now to consider, are of interest from the fact that on the one side was a very strong work; on the other, an enormous fleet, mounting a vast number of guns. On either side were brave and determined men, but the Confederates suffered exceedingly from want of ammunition. At the beginning of December they had but 3600 rounds, 1300 of which were expended in the first attack, thus leaving only 2300 for the second. Their fire was therefore of necessity slow, and we may conjecture that here is the real explanation of the Northern success against guns well mounted, and gunners who did not lack skill.

Fort Fisher was a work constructed not of masonry, on the old pattern, but almost entirely of sand and earth. In shape it resembled an inverted and reversed L, the horizontal limb of which crossed the sandy peninsula from west to east, whilst the perpendicular limb ran almost due south from the eastern or seaward extremity of the other. The former limb gave protection against a land attack, but some of its guns also bore upon the sea. It mounted seventeen cannon of various calibres, ranging from the 10-inch smooth-bore to the $4\frac{1}{2}$-inch, and including five rifles of 7-inch and $6\frac{3}{8}$-inch bore. The seaward works terminated at their southern extremity in an immense artificial mound, 80 feet high, on which were mounted one 10-inch columbiad and one 150-pounder (8-inch) rifled gun.

At the date of the second attack there were forty-four guns in all in working order. They were placed at considerable intervals so that each gun would have to be hit separately to silence the work; and immense traverses protected them against enfilading fire. To prevent the gunners being taken in the rear, a work known as Fort Buchanan guarded the southern extremity of the peninsula, though the shoal water in the Cape Fear River would not allow large vessels to approach in this direction. A very grave mistake was made in dividing the command of the defences. Fort Buchanan was in charge of the navy, whilst Fort Fisher was officered and manned by the army. The garrison in the latter work was by no means strong, as the total number of men quartered there did not exceed 1500. They made up for their small numbers by their bravery and devotion, but adequately to defend the fort 4000 or 5000 were required, and that number could be sheltered in bomb proof casemates.

It was decided by the United States Government to send a combined force to capture the fort. For the command of the fleet Farragut was at first selected, but, as from ill-health he could not accept the offer, Rear-Admiral Porter was chosen to fill his place. He had served with great distinction on the Mississippi and under Farragut, and showed that he fully comprehended his great chief's methods. The reduction of all the Confederate ports, except Charleston, which fell early in 1865, enabled the Navy Department to concentrate a large fleet. Included in it were four monitors, the broadside ironclad *Ironsides*, the *Minnesota*, *Mohican*, *Colorado*, *Tuscarora*, *Wabash*, *Susquehanna*, *Brooklyn*, *Powhattan*, *Juniata*, *Seneca*, *Shenandoah*, *Pawtucket*, *Ticonderoga*, *Mackinaw*, *Maumee*, *Yantic*, *Kansas*, *Nyack*, *Unadilla*, *Huron*, *Pequet*, *Fort Jackson*, *Santiago de Cuba*, *Tacony*, *Osceola*, *Chippewa*, *Sassacus*, *Maratanza*, *Rhode Island*, *Monticello*, *Mount Vernon*, *Montgomery*, *Cuyler*, *Quaker City*, *Iosco*, and *Vanderbilt*. The military

force was under the command of General Butler, and as usual there was some little friction between the two branches of the service. It was General Butler who conceived the remarkable idea of destroying the fort by the explosion of a powder boat —an idea at which the naval officers laughed from the first. The old steamer *Louisiana* was accordingly appropriated for this purpose, and 150 tons of powder were placed on board her. On the night of December 23rd, 1864, she was towed to her destination by a tug. On board her was Commander Rhind with ten officers and men. She was disguised as a blockade-runner, and thus was not fired upon by the Confederates. At 11.30 she cast off her tow-line and steamed in towards the fort, anchoring only 400 yards from it. The fuses were lighted, and the crew retired on board the tug which steamed full speed to sea. The fleet remained twelve miles off shore, waiting till the explosion took place, but so great were the apprehensions of General Butler that, on getting a hint from the naval officers that the effect would be like that of an earthquake, he was not satisfied till he was sixty miles away.

At 1.30 p.m. there was a bright flash of light followed by a dull sound, and that was all. Scarcely any concussion was felt on board the ships, whilst in the fort no damage whatever was done. The Confederates imagined that a blockade-runner laden with ammunition, which they were expecting, had blown up, and never for a moment suspected that this was a Federal device to destroy them. Twenty-five miles out at sea the appearance was that of lightning on the horizon, and two hours after the explosion a volume of dense smoke rolled down. Immediately the glare of the powder was seen the ships of the fleet got under way and stood in towards the fort. The plan of action was as follows : The ironclads were to steam as close to the Confederate guns as was possible, and were to be followed by the other ships, opening as they came within range and anchoring in succession. It was 11.30 on the morning of the 24th before all was ready for the

attack. The *Ironsides* with her powerful broadside battery led the way, and was the first to fire and the first to anchor. Ship after ship followed her, and came to anchor. A terrific storm of shot and shell was poured in upon the works, whilst from want of ammunition the reply was so feeble that the Northerners imagined they had silenced the guns. The Confederates retired to their bomb proofs, and looked on whilst the Federal guns covered the face of the fort with exploding shells. Two magazines blew up; the woodwork was repeatedly set on fire; the parapets and traverses were much injured by bursting shells digging huge craters, but the fort was not silenced, nor the *morale* of the gunners seriously shaken. After an hour and a quarter the vehemence of the Federal fire was reduced, and the fleet looked anxiously for Butler's coming to effect a landing. Nothing could be done that day to storm the fort, as he did not arrive till dusk from his place of refuge. The ships drew off at nightfall, having lost but very slightly from the Confederate fire. The *Mackinaw* had a shell in her boiler, and twelve men scalded, but fought on till evening. The *Osceola* was struck in the neighbourhood of the magazine, and all but sank. The ironclads and monitors were quite uninjured. On the other hand there was dreadful loss from the bursting of a number of Parrot rifled 100-pounder guns. These were of cast iron, with an extra coil to strengthen the gun over the breach, and were uniformly dangerous and untrustworthy. Their explosion caused on board the *Ticonderoga* six deaths, and disabled seven men; on the *Yantic* three were killed by them; on the *Juniata* twelve killed or wounded; on the *Mackinaw*, six; and on the *Quaker City*, three.

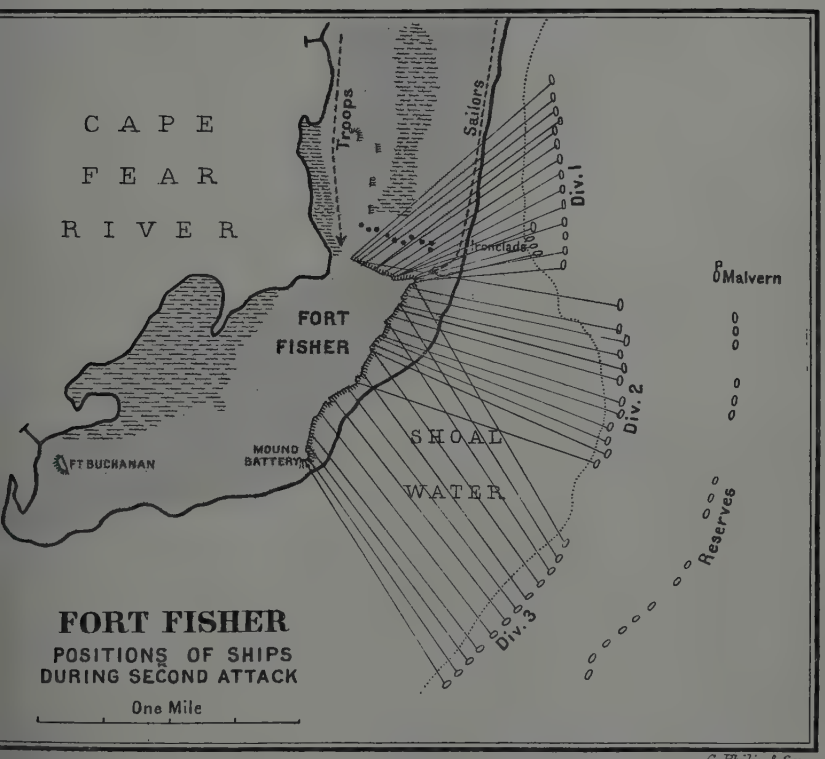
Early in the morning of the 25th, General Butler's transports had arrived, and the bombardment was resumed, whilst the troops landed five miles to the north of the fort. They only went on shore, looked, and came back, as Butler was convinced, after a reconnaissance, that the works could not be stormed, and that "they were left substantially uninjured by

the navy fire." An officer carried off a flag from the parapet, and the line of Federal skirmishers went very close, but no effort was made carry the line of fortifications. Admiral Porter was much annoyed by this inactivity on the part of the army, and showed his annoyance pretty plainly in his despatches. It must, however, be doubtful whether an assault would have succeeded at this date. The total losses in the bombardment were: Federals, twenty killed, sixty-three wounded; Confederates, six killed and fifty-two wounded.

On January 12th, 1865, a second and stronger expedition appeared off Wilmington, the ships as before under the orders of Admiral Porter, but the land forces under General Terry. The fleet mustered seventy-five ships, including all those present on December 24th and 25th.* The Confederates for their part had not been idle, and had repaired their works after the great trial of the previous bombardment, which had taught them much concerning the effect of artillery fire upon sand parapets. Colonel Lamb, in command, made urgent application for a supply of torpedoes and mines, and for more ammunition, but the desperate straits of the Confederate Government rendered it impossible to comply with his requests.

The fleet moved in to the fort at 3.30 p.m. on the afternoon of the 13th, whilst the troops were landing to the north. Nearest in, at a distance of only half a mile from the north-east salient, were the four monitors whose light draught permitted them to approach closely to the fort. At a distance of from five to seven furlongs, in deeper water, was moored the first division, at the head of which was the *Ironsides*. These vessels all concentrated their fire upon the line of entrenchments which faced landwards. The second division, at a distance of from six furlongs to a mile, and the third division at a still greater range, cannonaded the seaward face, whilst the vessels of the reserve in four divisions were placed well out of fire. The ships were directed to fire deliberately, to dismount

* Except the *Mount Vernon*, *Nyack*, and *Quaker City*. See Table V.



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AP VII.

the Confederate guns, to damage the traverses, and to knock away the casemates in the north-east angle. The dangerous rifled guns were to be used with very low charges. On a signal being given, indicating that the assault was ready to begin, all the ships were to blow their steam whistles and direct their fire upon the upper or landward limb of the fort. Landing parties were detailed from the larger ships, and instructed to pull in out of the reach of the fort's fire. The marines and sailors were to form in two distinct divisions, the marines covering the approach with rifle fire, whilst at the appointed moment the sailors rushed the work, attacking it upon the eastern extremity. At the same time the assaulting troops were to charge upon it at the western end.

The fleet opened its bombardment and continued it till nightfall, when the unarmoured ships withdrew. The ironclads, however, remained and kept up a slow but steady fire all the night. Next day the wooden vessels returned to their stations and the bombardment was resumed with vigour. In the evening the sailors 1600 in number, with 400 marines, were thrown on shore. On January 15th for the third day in succession the ships pitched their shells into the fort. At three o'clock in the afternoon the long-looked for signal to make the attack came. Amidst the tremendous uproar of the bombardment every whistle in the fleet blew a long blast, the whole volume of fire was concentrated upon the landward line of works, and the two assaulting columns moved from their shelter trenches to the attack. The sailors doubled forward impetuously, but the Confederates streamed out from their bomb proofs, and standing upon the crest of their works, poured in upon them a most murderous fire. The parties from the ships were strangers to each other, and were armed only with cutlasses and revolvers, whilst the Confederates were a seasoned and homogeneous force. In spite of the most desperate gallantry on the part of officers and men, the sailors, having reached the work, recoiled and fled in disorder. The covering party of marines was absent at the

critical moment. But if the sailors failed, they diverted the attention of the Confederates, who concentrated all their strength at the north-east corner to repel what they supposed was the main attack, so that the troops advancing on the west were able to gain the fort almost without opposition. Then there ensued a most desperate and bloody struggle, as traverse after traverse was carried by the Northerners, the Confederates, though greatly outnumbered, displaying a heroism and steadiness worthy of the highest praise. Not till the Mound Battery had been stormed did they break and run, though they were swept away dozens at a time, by the shrapnel of the *Ironsides*. The news that the fort had fallen was received with tremendous cheers, with the blowing of the whistles, and the ringing of the bells on the ships. The obstinacy of the resistance may be judged from the heavy losses of the Northerners, who had nearly 1000 men killed or wounded.

The other forts protecting the approach to Wilmington quickly fell into Admiral Porter's hands. None of them could compare in strength with Fort Fisher, though all were formidable. Wilmington itself was occupied in February, and on April 7th, the resistance of the Confederacy collapsed, thus justifying Admiral Porter's prediction, "Its (Fort Fisher's) importance will be soon felt in the fall of Richmond, to which it is as necessary now as the main artery is to the human system."* The fleet then had a full share in the final reduction of the South.

* Porter, p. 723.

CHAPTER VIII.

The Southern Warfare against Commerce.

The exploits of the Confederate cruisers in the American Civil War do not, strictly speaking, fall within the compass of a work, the primary object of which is to set forth the history of the ironclad. But as a second and subsidiary object before us is to present in some degree a picture of naval warfare in its later stages of development, and as it is a commonplace that, in any future struggle, England will be fiercely assailed where she is most vulnerable, in her trade, we have thought it well to include a short account of the Confederate commerce-destroyers.

These vessels were of two types. First there were small craft employed in the work of destruction near the coast—schooners, cutters, and small steamers. Such were the *Jeff Davis*, the *Winslow*, the *Retribution*, and the *Echo*. There is nothing very attractive or instructive in their exploits; they stole out of the Southern ports, manned by sailors of great daring and resolution, and made in most cases only a few insignificant prizes. In one or two cases these prizes were recaptured—once at least the beaten Northerners rose upon the prize crew and overpowered them with terrible bloodshed. The story of that deed is appalling, and no better object lesson could be found by any Peace Society.* Secondly, there

* It is given in all its naked horror in Scharf, pages 79-81. The Northern schooner *S. J. Waring* had been captured by the Southern privateer *Jeff Davis*. Four Northerners—one a passenger, and one a coloured cook—were left on board. A prize crew of a pilot, two mates, and two seamen were sent on board from the *Jeff Davis*. At midnight, on July 16th, 1861, when the pilot and the

were the sea-going cruisers—very few in number, built in one or two instances especially to harry trade, but generally speaking weak and insignificant ships. That such vessels were able to inflict so heavy a loss upon American shipping is not the least surprising feature of the war.

First in the order of time came the *Sumter*. She was a small steamer of 437 tons, 184 feet long, 30 in beam, and barquentine rigged. Under the name *Habana* she had plied between New York and Havana. She was slow under sail, and with steam had a speed of only nine or ten knots. In April, 1861, she was purchased from her owners by the Confederate States' Navy Board, brought to New Orleans, and there prepared for sea under the famous Captain Raphael Semmes, who had served with distinction in the Mexican War, but was regarded with some dislike, as indolent and a blusterer, by his fellow officers of the United States Navy. He was, however, to give ample proof of judgment and ability in his cruises. The *Sumter* was armed with one 8-inch pivot gun amidships and four short 32-pounders. Her supply of coal was not all that could be desired in a cruiser—starting with bunkers full she could only steam for eight† days. Semmes dropped down to the head of the Passes, the point where the various channels, which afford entrance or exit to the main stream of the Mississippi, diverge, in June, 1861, and waited for his opportunity. At the mouth of the river lay the *Brooklyn*, whose watch was so vigilant, that it was a fortnight before the

mates were asleep, the coloured cook stole into the pilot's cabin, and dealt the pilot and the second mate who were sleeping there, a blow on the head with an axe. The pilot's wound was mortal, but the mate fled on deck, where the wretched man was finished off and cast overboard. The other mate was also struck on the head, but not killed, and when the Northerners had butchered the second mate, they returned to him and the pilot. The dying men, in spite of their prayers for mercy, were battered about the head and tossed overboard. The other two Southerners, who were half asleep, were placed in irons. The total time occupied in this bloody work was only seven and a half minutes. The repulsive details have been omitted, but those who want horrors will find them in the original.

† Porter, p. 604, five days. Scharf, p. 786, eight days.

Sumter could get away. She chose her opportunity well. The *Brooklyn* had steamed some eight miles to the westward of the Mississippi mouth, chasing a strange sail, when the Confederate vessel made her dash; but started to return on seeing a dense column of smoke descending the river. As the Confederate ship had the strong river current with her, she reached the mouth three and a half miles ahead of her Northern adversary.

Yet, notwithstanding this start, through the foaming of her boilers, the *Sumter* was so nearly captured that Semmes prepared to throw his papers overboard, and not till nightfall did his ship shake off his pursuer. He proceeded to cruise in West Indian waters, and, when three days out, captured his first prize, the *Golden Rocket*. By July 6th, in less than a week, he had made eight prizes. He next sailed along the northern coast of South America, stopping at Curaçoa, Trinidad, and Maranham, but was unpleasantly surprised to find that he was not allowed to bring his prizes into these neutral ports, though he was permitted, in most cases, to obtain coal and provisions. Standing north from Maranham, the *Sumter* reached St. Pierre, in Martinique, where she was coaling when the Northern warship *Iroquois* arrived. The *Iroquois* at first displayed some intention of attacking the *Sumter* in this neutral port, but abandoned it on the appearance of a French cruiser. Finding that the twenty-four hours rule—which forbids the stronger vessel to leave a neutral port within that time after the departure of the weaker—would be enforced, the *Iroquois*' captain resolved to stay outside, and watch for the commerce-destroyer. He arranged with a Northern schooner, which lay in the port, a system of signals, which would inform him of the Confederate movements, though this, it would seem, was a breach of international law, as it broke the rule that a belligerent, wishing to communicate with the shore or harbour, must enter the harbour, and submit to the twenty-four hours' rule. Semmes waited some days to put his enemy off his guard, before—on the night of

November 23rd—he ran for the sea. The schooner at once signalled his movements and their direction, but he had not omitted this from his calculations. The night was dark; the mouth of the harbour twelve miles wide. He ran southward till he was under the shadow of the mountains, and then stopped. The *Iroquois* raced off south, whilst a providential shower of rain hid her opponent. Under cover of it the *Sumter* stood north, and was speedily safe—at large once more.

Semmes now crossed the Atlantic to Spain, taking three prizes on his way. At Cadiz, he sought leave to dock, but he was only allowed to land forty-three prisoners whom he had taken, and to make such bare repairs as would enable him to get to sea. He stood out from Cadiz, and, taking two more ships on his way, put in to Gibraltar, hoping for a more hospitable reception. But the Northerners were on the look-out for him, and three ships—the *Tuscarora*, *Chippewa*, and *Kearsarge* at once blockaded him. In the face of such a force, Semmes saw that it was hopeless to escape. Moreover, his ship was leaky, and in very bad repair; nor would the authorities at Gibraltar allow him to coal. The *Sumter's* cruise had lasted six months, and she stood in great need of a thorough overhaul. Under these circumstances, Semmes decided to sell her, and disbanded the crew. She was purchased by an English firm, who employed her as a blockade-runner, and as such, in July, 1863, she ran in and out of Wilmington. She captured in all eighteen prizes, of which eight were released, seven destroyed, two ransomed, and one recaptured.* She sold for 19,500 dollars, and ended her career by foundering in the China Sea.

The second important cruiser was the *Florida*, built in England under the name *Oreto*, and, as it was pretended, for the Italian Government. She was designed as a warship, had

* The number of prizes captured or destroyed, is in every case based on the statement of Scharf. There are slight differences in the various authorities, and even the text and tables of Scharf do not agree.

two funnels, and three masts with full rigging; and her screw could be lifted so as not to drag when she was using sail-power alone. The attention of Earl Russell was drawn to this ship. The Italian Consul at Liverpool disclaimed all knowledge of her, so that it must have been evident that, as was the case, she was being built for the South. It was decided to detain her, but, before the order could arrive, she put to sea with a weak crew, and stood across to Nassau, in the Bahamas, where were the head-quarters of the blockade-running trade. Here she was met by a second steamer, laden with guns and munitions, which she prepared to take on board in the harbour. This, however, was going a little too far; she was seized by the British authorities, and only released after a naval inquiry. She had been carefully "whitewashed," and though everyone suspected her mission it was hard to get proof of any illegality. There was, too, that unfortunate English sympathy for the South, which has caused such evil blood between the two great branches of our race. The *Oreto* was accordingly released, and, proceeding in Captain Maffitt's charge to Green Cay, a desolate islet, there took on board her armament, of two 7-inch, and four 6-inch rifled Blakely guns. Her name was changed to the *Florida*, and the Confederate flag was hoisted. With nineteen hands in all she commenced her cruise, and of these all but one fireman and four deck-hands were prostrate with yellow fever.

The *Florida* first proceeded to a Cuban port where she enlisted twelve men, and then, with a crew still insufficient to man the ship, prepared to run the blockade into Mobile. Off Mobile lay two Northern ships, the *Winona* and *Oneida*, of which the latter was under repair, and in consequence unable to carry a full head of steam. Maffitt, with the English flag hoisted, ran boldly up, and as his ship was very similar in design to the English cruisers, which were constantly paying the blockaders visits to discover whether the blockade was effectual, no stratagem was suspected. The Confederate was

allowed to approach closely, though the Northerners went to quarters. As the *Florida* made no response to the *Oneida's* hail, but went steadily on, three shots were fired across her bows; she still paid no attention, and both the Northern ships now opened upon her in real earnest. The damage she received was not great; her hammocks were shot away, and her boats shattered, whilst one 11-inch shell passed clean through her, and a second lodged in her killing one man and wounding seven. She had passed the blockaders, however, and running fourteen knots to their seven, was quickly clear of them. Her commander deserves all the more credit for his dash because he had risen from the bed of sickness to take her in. He shipped a full crew in the port, but did not delay long. On January 16th, 1863, he ran out without sustaining the slightest injury, and this though a fast vessel the *R. R. Cuyler* had been specially detached to watch the port. Instead of being ready, this ship was taken off her guard and lost half an hour in commencing the chase; in fact, there was gross mismanagement on the part of the Northerners who knew Maffitt was coming out. When the *Cuyler* got under way, her speed was only twelve-and-a-half knots to the *Florida's* fourteen, but none the less she kept the Confederate in sight the whole of the day, and only lost her with nightfall. The *Florida* quickly captured three prizes, when she was sighted and chased, if this term can be used when the vessel pursued slows down and shows every inclination to fight, by the *Sonoma*, whose captain had the discretion not to get too close. After thirty-four hours of this game the *Sonoma* disappeared, and the *Florida* was left to her own devices. Off the Windward Isles Maffitt captured a very valuable prize, the clipper *Jacob Bell*, on her homeward voyage from China, with a cargo of silks and tea, worth a million and a half dollars. Next, calling at Nassau, the *Florida* took on board a large supply of coal, thanks to the connivance of the custom-house officers, in spite of the order of the Governor that she should only be allowed so much as would take her to the

Confederate port. Having coaled afresh at Barbadoes* she cruised upon the northern Atlantic between Brazil and the United States, capturing several small prizes. One of these, the *Clarence*, a Baltimore brig, was selected as a tender, and armed with a 6-pounder howitzer and several dummy guns, whilst a crew of sixteen men under Lieutenant Read was assigned her. In four days she made five captures, and to one of these, the *Tacony*, the crew and armament of the *Clarence* were transferred, and the *Clarence* was burnt. In a fortnight the *Tacony* had made fifteen prizes, cruising close to the coast of the Northern States. To one of the prizes, the *Archer*, the crew was once more transferred, and the *Tacony* in her turn was destroyed. Read, emboldened by his impunity, now decided to raid the coast, and with a boat party slipped quite unobserved into the important harbour of Portland, Maine, and seized the excise cutter, *Caleb Cushing*, which was at anchor there. No alarm was given, her crew were overpowered before they could make any resistance, and the first intimation to the citizens of Portland that something was wrong was the sight of the cutter suddenly putting out to sea. She was pursued by two steamers and three tugs, and Read with his audacious little force was captured. The *Tacony* and *Clarence* between them took twenty-three vessels of which one was recaptured, five ransomed, and the rest destroyed.

Whilst Read was busy on the Atlantic coast, Maffitt took the *Florida* across to Brest, where she was docked and repaired, the command being transferred to Captain Morris. After this she recrossed to Bermuda, where she coaled, and proceeded up the Northern coast line. Ten miles from Dela-

* One of the three instances of violation of English law brought forward in the U.S. case before the Geneva Arbitrators. No belligerent ship could obtain coal from a British or Colonial port till the expiration of three months from the date of her last supply, at the same or any other British port, by the order of January 31st, 1862. On the other hand, this regulation was broken in *nine* instances by U.S. warships. The *Vanderbilt* in two months alone took in 2000 tons of coal at British ports. Bulloch, Secret Service, ii, p. 181-2.

ware she captured and destroyed the United States mail steamer from New York to New Orleans, *Electric Spark*.* Her presence so close to New York caused a panic, but she did not wait to be attacked. She ran back across the central Atlantic to Teneriffe, and thence to Bahia, in Brazil, where she anchored. Her commander drew the charges from his guns and sent his men on shore, although the Northern sloop *Wachusett* was lying in the harbour.

The *Florida* arrived on October 5th, 1864, and to part the two vessels a Brazilian ship anchored between them. Just before daybreak on October 7th, Commander Collins, who was in charge of the *Wachusett*, determined to attack and capture the *Florida*. He left his moorings, and passing the Brazilian vessel, rammed the Confederate ship, doing very little damage. He next poured in a heavy fire upon her, and as the *Florida* was taken by surprise, as the greater part of her crew was ashore, and as her guns were unloaded, she could make no reply, and was driven to surrender. The *Wachusett* towed her out of the harbour at once, meeting with no resistance whatever from the Brazilian vessel. The fort at the entrance, however, fired three shots at him, without doing him any damage.

Such an act as this cannot be justified, but there were precedents for it in the past, and we may expect to see similar infringements of neutrality in the future. Suffren's attack upon Hughes in Porto Praya is precisely similar. In the same way the *Phœbe* and *Cherub* attacked the *Essex* upon the Chilian coast. In neither case was neutrality respected. Lemoine, whose work on international law is carried by French ships, considers that belligerents may attack each other on a desolate neutral coast. The only way to prevent belligerents from infringing neutrality is for the neutral to be strong. But Brazil was lamentably weak, and yielded in turn to the pressure of the North and South. Collins' act was at

* She was scuttled, and her passengers and crew transferred to a passing English vessel.

once repudiated by the Northern administration, though the fiery spirits of the North maintained that Brazil had allowed the Confederate cruisers to abuse her neutrality without offering any objection. They especially drew attention to the fact that the *Alabama* had taken into the anchorage of Fernando de Noronha two prizes, coaled from them, and burnt them there, and that, more than this, she had captured and destroyed two other Northern ships within the territorial waters of Brazil, using Fernando as a base. Yet not even this is justification for the attack upon the *Florida*. It is easy on the other hand to understand Captain Collins' action. He saw a fast Confederate cruiser off her guard in the harbour. She had harried the commerce of his country, and if she escaped he could not hope to capture her owing to her superior speed. The Northern Press had bitterly attacked the navy for failing to capture her. So he resolved to seize her.

Looking at this case commanders of warships who find themselves in a neutral port with an enemy will do well to be on their guard. Captain Morris would have been wiser had he double-shotted his guns, and kept his crew at quarters ready for any attack.* The *Florida* was taken to Hampton Roads, but on the demand of Brazil for satisfaction, Collins, who had captured her, was ordered to take her back to Bahia and surrender her.† What followed is not the least disgraceful feature of the story. Her engineers admitted the water, and she was designedly sunk whilst the admiral in charge looked on. And yet the latest historian of the United States navy states that she "was accidentally sunk in port"! ‡ The *Florida* captured in all thirty-seven prizes, of which twenty-eight were destroyed and four ransomed, whilst on five only the cargo or personal property was destroyed.

* As did Semmes with the *Sumter* at Martinique.

† The *Florida's* officers were very badly treated, and were detained in prison till February 1st, 1864.

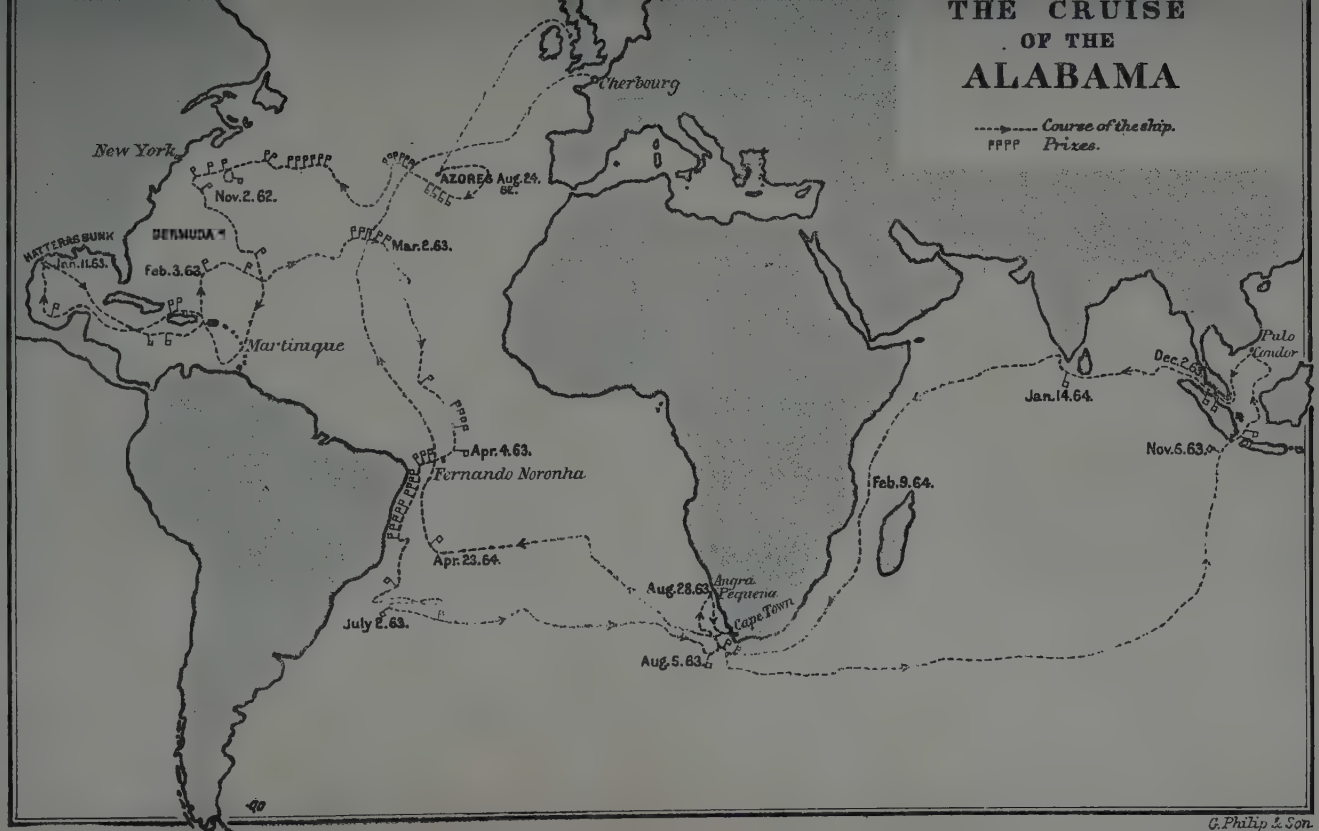
‡ Maclay, ii., 558.

The third cruiser is, of all the series, by far the most famous. The *Alabama*, or No. 290, so-called because she was the 290th ship built by Messrs Laird, of Birkenhead, was a barquentine rigged steamer with lifting propeller. Her displacement was 1040 tons, her length 220 feet, and her beam 32 feet. She was not particularly fast even for her day: her speed under steam was eleven-and-a-half knots, whilst under sail she could make ten. She sailed from Liverpool July 29th, 1862, though the attention of the English Government had been drawn to her, and instructions had been sent to the local authorities at Liverpool to detain her till her destination should be ascertained. She got away under the pretext that she was going out for her trial, but this does not excuse the culpable negligence of the authorities. It would have been perfectly easy to place a detachment of blue-jackets on board her to prevent her escape. For our remissness we have since had to pay heavily both in cash and the bitter animosity of the United States.

The *Alabama* ran clear of British territorial waters and completed her preparations, after which she steamed round the north of Ireland to Terceira in the Azores. Here a vessel with guns, ammunition, and a cruiser's outfit met her, and a few days later a steamer arrived from England with Captain Raphael Semmes, ex-commander of the *Sumter*, and a crew largely composed of Englishmen.* Among these were a few gunners trained for the Royal Navy upon H.M.S. *Excellent*. Semmes took the *Alabama* out of neutral waters, transferred to her the guns and stores, hoisted the Confederate flag, and commissioned the No. 290 as a cruiser. Her armament was not very heavy. She carried a 100-pounder, Blakely rifle, mounted on a pivot on the forecastle, six 32-pounders† on the broadside, and one 8-inch smooth bore

* It also included some Northerners.

† These were very indifferent and untrustworthy weapons. Apparently they were not rifled.


THE CRUISE
OF THE
ALABAMA
Course of the ship.
PPPP Prizes.
Cherbourg
New York
Nov. 2. 62.
AZORES Aug. 24. 62.
BERMUDA
HATTERAS SUNK
Jan. 11. 63.
Feb. 3. 63.
Mar. 2. 63.
Martinique
Apr. 4. 63.
Fernando Noronha
Apr. 23. 64.
July 2. 63.
Aug. 28. 63.
Angra Pequena
Cape Town
Aug. 5. 63.
Feb. 9. 64.
Jan. 14. 64.
Dec. 2. 63.
Nov. 6. 63.
Pulo Condor
40

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on a pivot aft. Her crew consisted of 120 men, with twenty-four officers.

She was commissioned August 24th, 1862, and at once commenced by cruising in the vicinity of the Azores. A large number of Northern whalers were in the neighbourhood and, ignorant that the Confederates had any warships at sea, were taken completely off their guard. Ten vessels were captured to the west of Fayal by September 14th, and in every case they were destroyed. Semmes had no ports into which he could take prizes, so he was forced to constitute himself a prize-court on board his ship. He seldom gave his captives the benefit of the doubt, more especially as he was irritated by the denunciations of the Northern Press which assailed him as a pirate and freebooter. By the end of October, standing across the Atlantic, he was off the Newfoundland Banks, where he made twelve captures among the outward bound corn-ships, and though he was right upon the trade line to Europe found no trace of any Northern warship. He then encountered a number of ships, with neutral cargoes on board, which he did not care to touch. Moving southward he found himself on November 1st within 200 miles of New York.* As he expected that the Northerners would have obtained information of his whereabouts by now, he made for Martinique, having captured one vessel on his way, and coaled there. He knew the place well, as he had visited it with the *Sumter*. Whilst in the port the Federal man-of-war *San Jacinto* appeared and watched the *Alabama*, herself remaining outside territorial waters. Semmes had before checkmated the Northerners, and on this occasion too he escaped without difficulty. He had not filled his bunkers, and so ran south to Blanquilla in Venezuela where he coaled, standing across to Hayti when he was ready, to waylay homeward-

* His proximity caused great alarm in the defenceless Northern ports. The Navy Department was entreated to maintain monitors at the exposed points. Armoured Vessels, 586, &c. That no attack was made on such points, has a bearing upon the bombardment of open ports.

bound clippers and mail steamers. Whilst off this coast he made his most valuable prize, the *Ariel*. As he knew nothing of the *Alabama*, the captain of the Northern mail steamer ran close up to her, imagining that she was a United States' warship. He was woefully undeceived. A gun was fired across his bows, and though he had the superiority in speed he realised that any attempt to escape would lead to great slaughter on board his ship, as the distance which parted him from the *Alabama* was very small. He had 500 passengers mostly women and children, though there were also a certain number of United States' marines. Among the women, who really fancied that the Southern captain was a pirate, the alarm was very great, but Semmes allayed it with great adroitness by sending his best looking officer on board in a smart uniform. He was somewhat embarrassed by his prize, but ended by paroling the marines, taking a bond on the ship for 216,000 dollars, which was to be paid when the Confederate States were declared independent, and removing £1900 in cash. The *Ariel* was then released, the sole steamer captured in the *Alabama's* warfare against commerce. A few days later Semmes coaled at sea from a tender which quietly kept him supplied.

From papers captured on board the *Ariel* he had learnt that an expedition under General Banks was being fitted out to attack Galveston. Hoping to intercept it, he steamed across the Gulf of Mexico to Galveston, where the *Brooklyn* and several other small vessels were maintaining the blockade. Amongst these was the *Hatteras* a lightly built paddle-steamer, which had formerly plied on the Delaware, but in the scarcity of ships had been taken into the Northern navy. She was a most defective vessel: her machinery was above the water-line and much exposed, whilst her armament was weak, consisting of only four 32-pounder and one 12-pounder smooth-bores, with two 30-pounder, and one 20-pounder rifles. The weight of her broadside was less than half that of the *Alabama*.

The look-out of the *Brooklyn* about midday, January 11th, sighted a strange vessel at some distance making for the port, and as the ship was undergoing repairs, the *Hatteras* was ordered to give chase. The *Alabama* meantime had hoisted sail and made off as if seeking to escape. The *Hatteras* followed her as fast as her weak machinery would permit, and for hour after hour chased the stranger. Blake, who was in command of the Federal ship, was rendered uneasy by the discovery that his quarry was a steamer, and that, though his engines and boilers were of the feeblest description, he was fast overtaking it. He was twenty miles from the rest of the squadron when the stranger lay to and suffered him to approach. He hailed, asking what the ship was, to be informed that he saw "Her Britannic Majesty's ship *Petrel*." Not satisfied with this he ordered out a boat to go on board the supposed *Petrel*, but as it left his sides a shout came from the vessel before him, "This is the Confederate steamer *Alabama*," and directly afterwards a broadside was poured into him. Blake strove to run in and board, a manœuvre which Semmes with his superiority in speed easily frustrated; and, crossing the *Hatteras*' bows, the *Alabama* raked her. She replied promptly, but the *Alabama's* fire was accurate and irresistible, the *Hatteras* was repeatedly hulled, her guns were silenced, she was on fire in three places, her crazy engines were disabled, and her water-line was riddled. Helpless and sinking she hauled down her flag after a fight of only a quarter of an hour. Her entire complement was rescued by the *Alabama's* boats. The losses on either side in this action were extraordinarily small. Only two men were killed on board the *Hatteras*, whilst one was wounded on board the *Alabama*. The victor steered for Jamaica, and there landed her prisoners, January 20th, 1863. The rest of the blockading squadron were ignorant of what was happening; they heard, indeed, the report of the guns, and saw flashes, but imagined that the *Hatteras* was busy with some blockade-runner. They stood towards the scene of action; and,

reaching it, found that the battle was over, and that no ship was in sight. Not till next morning when the topmasts of a sunken vessel were seen protruding from the water was the truth known. And the *Alabama* was by then quite out of their reach.

Semmes had shown courage and enterprise in thus enticing out and assailing the *Hatteras*. He knew that a sharp look-out would be kept for him in the West Indies, and resolved to seek other waters. He ran out into the central Atlantic, where, some leagues west of the Canaries, he captured five vessels. He was now at the point where the trade routes to Africa and South America meet, between Cape Blanco and Cape San Roque. On March 2nd, 1863, he turned south along the South American line, and made a rich haul. Twenty-four prizes fell into his hands, and were all destroyed, with the solitary exception of the *Conrad*, which, under the name *Tuscaloosa*, became a Confederate cruiser. She had no great success, and was seized by the British authorities at Capetown after capturing two vessels. The *Alabama* lay for some days off the islet of Fernando Noronha, where she certainly infringed the neutrality of Brazil by running out from the roads, and destroying two American ships. The Brazilian governor, however, had no force present to resist her, and it is hard to know what he was to do, with a powerful and not too scrupulous belligerent. Therefore, perhaps wisely, he did nothing; and after two months' stay on the Brazilian coast, his formidable guest crossed the Atlantic to Capetown, capturing on the way two prizes, one of which, the *Sea Bride*, he carried to the small neutral harbour of Angra Pequena, and there sold to a British merchant. Thence he proceeded to Capetown, where he executed some slight repairs; but as he heard that the *Vanderbilt*, a swift Northern warship expressly detached to look after him, was expected in South African waters, and as he had made very few prizes, he decided to move on to the East Indies. Accordingly, leaving the Cape in August, 1863, he steamed direct for the Straits of Sunda,

which he reached without capturing more than one prize. Here he heard that the Northern ship *Wyoming* was on the look-out, but he made two captures before he left the Straits. He was obliged to be careful, and, not wishing to risk an action, ran up the western coast of Borneo, doubling back across the Gulf of Siam to Pulo Condor—a French convict settlement off the coast of Cochin-China—where he refitted, keeping springs on his cables, so that he could rake the *Wyoming*, in case she attempted to enter the harbour. Here he remained a fortnight, till, leaving the Straits of Singapore in December, 1863, he crossed to Cape Comorin, capturing one prize on his way. Thence he took his course down the east coast of Africa, back to the Cape, and so up the Atlantic to Cherbourg, which place he reached June 11th, 1864, after nearly two years of wandering. On his homeward track he had taken very few prizes, either because the Yankee merchant skippers were more wary, knowing that he was about, or because he had driven the United States' flag from the seas. From start to finish he had captured sixty-eight vessels, besides sinking the gunboat *Hatteras*. Of these only one was a steamer, the *Ariel*, and she was released on bond. Of the others fifty-three were destroyed, nine were ransomed by bonds, two were released, one was used as a cruiser, and in four cases the cargo only was destroyed.

The *Alabama's* end was at hand. In European waters, off Flushing, lay the United States' sloop of war, *Kearsarge*, commanded by Captain Winslow. On Sunday morning, June 12th, 1864, she was at her moorings, when a telegram arrived from the Northern minister to France, with the news that the hated commerce-destroyer had appeared at Cherbourg. The *Kearsarge* at once prepared for sea; her sailors absent on leave were recalled, and Winslow steamed down the Channel, calling first at Dover. He was off Cherbourg on the 14th, and saw, as he approached, the enemy's flag inside the cyclopean breakwater which encloses the great naval harbour. He ran in, but did not anchor, as he was afraid of the twenty-four

hours' law, which would have subjected him to detention, and allowed the *Alabama* to escape. Outside territorial waters he lay to, and watched his foe attentively, determined that Semmes, who had so often given the Northern commanders the slip, should find in him a vigilant adversary.

But if Semmes had any intention of running he quickly abandoned it. He had in no small degree been irritated by the abuse of the Northerners, who called him a pirate and a destroyer of helpless ships, accusing him of cowardice. Ashore, too, he found that the French officers expected him to fight, and to this he made up his mind. Yet, had he looked to the interests of the Confederate States rather than to his own personal reputation, he would have declined battle. The commerce-destroyer's aim and mission is to harry merchantmen, and not to encounter warships. But he was somewhat intoxicated by his success; he had confidence in his ship and his crew; and he believed that he would crown his brilliant career as a corsair by a dazzling victory over the Yankees, whom he despised.

There was no striking disparity between the ships. The armament and details of the *Alabama* have been already given. We may add that the total weight of metal discharged from her eight guns was three hundred and sixty-nine pounds, of which about three hundred and five pounds could be brought to bear on either broadside.* The *Kearsarge* was slightly faster than the *Alabama;* like the Confederate ship she was a fully-rigged steamer; her displacement was 1031 tons; and she carried seven guns. Of these two were 11-inch smooth-bores† mounted forward and aft on pivots; four were 32-pounders; and one was a 30-pounder rifled.‡ The

* One 100-pounder; one 68-pounder; four 32-pounders; one 9-pounder. The 32-pounders were, as has been said before, in very bad condition, and shot indifferently. Semmes states that there was a 9-pounder on board, though others speak of a 24-pounder.

† Firing a 136lb. shell and 150lb. shot.

‡ She also carried a 12-pounder howitzer, which was used at the close of the action, but is not reckoned in the weight of broadside.

weight of metal thrown by her was four hundred and thirty pounds, of which three hundred and sixty-six pounds could be projected on the broadside. In broadside, then, she had a very telling superiority.* The crews of the two ships were approximately equal, the *Kearsarge* carrying 163 men to the *Alabama's* 150. Yet, whilst the numbers were much the same, there was a great difference in moral quality between the two complements. The *Alabama's* men had received little training in gunnery; with the exception of their practice against the *Hatteras*, on which occasion they had shot well, they had not been in action; and, composed of the scum of many nations, with a large English leaven, they lacked discipline and coherence.† Once at least there had been mutiny on board, which Semmes had sharply repressed. The *Kearsarge's* men were exceedingly well-trained; they had been given constant gun practice; they were all of one nationality, and they were fighting for a great cause. They were disciplined and resolute, coming of that splendid stubborn Puritan stock which was the backbone of the Northern States through the war as it had been of the England of the seventeenth century. The whole history of naval warfare is one lesson that it is men and not ships who decide the issue, and that, given a superiority in seamen and officers on one side, that side is sure to win. The teaching of 1812 was to be repeated almost within earshot of Portland.

The *Kearsarge's* captain received from Semmes a challenge to fight—or rather a request not to leave, as the *Alabama* would come out after her preparations were completed. The *Kearsarge* was scrutinised with great care by the Confederate officers from the breakwater, but there was one fact which they failed to discover. Amidships, for a distance of about fifty feet in the wake of the engines, had been fastened spare cables. This improvised belt was only six feet wide; it was

* 60lbs., or 20 per cent.

† 'No officer could go below (on the *Alabama*) after dark,' Haywood. Cruise of the *Alabama*, 98. 'A crew of desperadoes,' id. 110.

covered with inch deal boards to exclude dirt; and was originally intended to protect the engines when the bunkers were empty. Semmes afterwards affirmed that this device converted the *Kearsarge* into a virtual ironclad. It had been affixed a year before the action, it cannot be said to have exerted any influence upon the issue,* and in any case its adoption was open to the Confederates. They must have known of the device, as Admiral Farragut employed it when he forced his way up the Mississippi, and the South always obtained full and accurate information of the enemy's proceedings.

On Sunday, June 19th, the *Kearsarge* was lying near the buoy which marks the shoals to the east of Cherbourg, about three miles from the entrance. There was no sign from the *Alabama* till after ten, when just as the Northern crew were gathering for service, the news flashed through the ship, "She's coming and heading straight for us." Prayer-book in hand, Captain Winslow ordered the ship to be cleared and the men to go to quarters, slipped his cable, and stood out to sea, to avoid fighting in neutral waters, and to prevent the escape of his enemy. He supposed her to be the stronger, imagining that Semmes would not have been so ready to fight unless this were the case. The *Alabama* came out attended by the French ironclad *Couronne*, whose mission it was to see that the encounter did not take place within French territorial waters. The intention of Semmes was well known in the town; and the breakwater, the Mont du Roule, which rises abruptly behind Cherbourg, and the neighbouring coast were thronged with sight-seers, whilst excursion trains brought up fresh loads.† The English yacht *Deerhound* was in attendance on the *Alabama*,

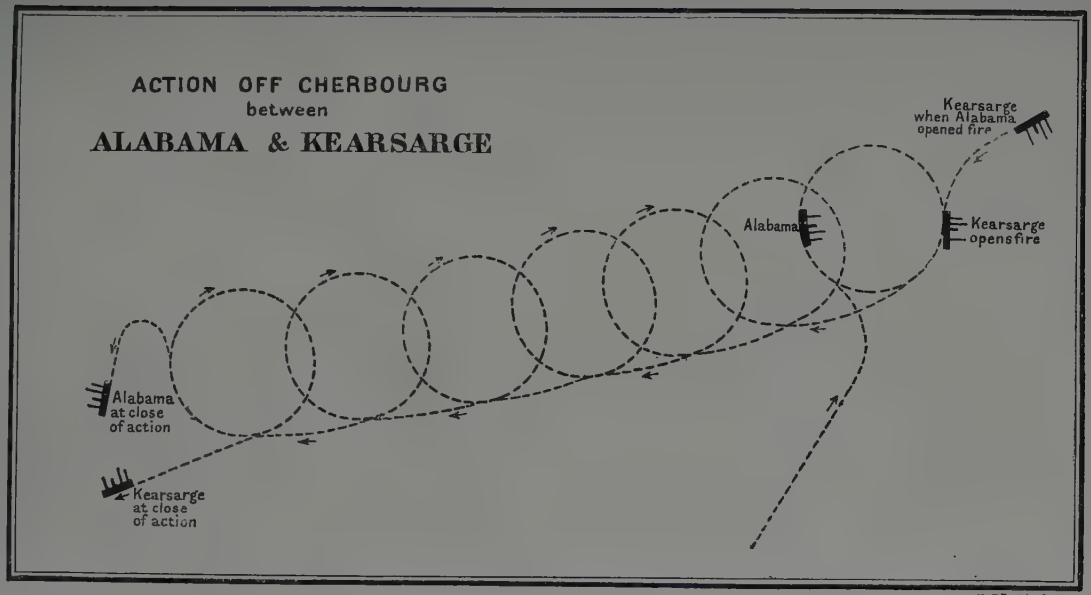
* An English gentleman, however, who saw her immediately after the action, informs me that she had numerous hits upon her chain armour.

† This is denied by Bulloch, ii., 108. It seems wildly improbable, but finds a place in all Northern versions.

PLATE VIII.

THE FRENCH BATTLESHIP BRENNUS.

See ii., 263.



MAP IX.

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thanks to the desire of the children of her owner to see the fight, a desire to which Semmes and many of his crew owed their lives.

The *Couronne* turned back when she had seen the *Alabama* three miles from the coast and left the combatants to themselves. The *Kearsarge* steamed as if in flight before the *Alabama* till seven miles were between her and the shore, then at 10·50 circled round and steamed straight for the Confederate. At 10·57 the *Alabama* opened the fight with a shot from her 100-pounder pivot, and followed it up with a broadside. Discharged at a distance of a mile no harm was done except to the *Kearsarge's* rigging. To avoid being raked, Winslow now altered his course, and as the *Alabama* still strove to turn and rake the *Kearsarge*, the vessels fought with their starboard batteries bearing, steaming round and round in a circle, or rather in a spiral, as there was a current which carried them towards the south-west. Two broadsides had been fired by her opponent before the *Kearsarge* replied. Then at a distance of nine hundred yards she poured in her shells the fuses of which were set for five seconds. Each ship striving to rake the other, the two revolved round a common centre, and each apparently travelled in the opposite direction to the other though both were really steaming in the same direction round the common circumference.* The distance parting them gradually diminished till towards the close of the fight it was only 500 yards, and as it diminished the *Kearsarge's* smooth-bores with their huge shells, at point blank range, grew more and more effective. There was a great difference in the noise and smoke made by the ammunition of the two vessels. The *Kearsarge's* guns gave a clear sharp report, and their smoke was white and light, whilst the *Alabama's*, using powder, which was in indifferent condition, gave a dull heavy sound,

* See plan, p. 162.

with thick black smoke.* The Northern ship, again, fired slowly and with precision ; her heavy guns were directed upon her opponent's water-line, whilst her lighter weapons swept the *Alabama's* deck. The after-pivot, an 11-inch smooth-bore did splendid service. Shell after shell from it struck the *Alabama*, and three in quick succession burst near her 8-inch pivot, killing and wounding its crew. Four times did that crew reform before the battle was over. The *Kearsarge's* men watched their shots carefully, and cheered at each hit. Early in the fight a projectile smashed the *Alabama's* spanker-gaff and carried away her colours. For a moment it was thought that she had struck, and the cheering was tumultuous. But the ensign was quickly re-hoisted at the mizzenmast head. The *Alabama's* fire was furiously rapid, but, probably through the inferiority of the powder and fuses, did the *Kearsarge* little harm. The Confederates at first employed shell, then, as these dropped harmless from the enemy's side, turned to shot, and when the encounter became closer fired alternately shot and shell. A 100-pounder shell from the *Alabama's* big forward-pivot struck the *Kearsarge's* stern, shaking the ship violently, but it failed to explode. Had the fuse been good the fortune of the fight might have been changed. Between decks the *Alabama* was much shattered by the Northern projectiles, and her wardroom, where the Assistant-Surgeon was at work, was exposed to their ravages. He was bending over the table, upon which lay one of the wounded, when a shot carried away man and table leaving the surgeon unharmed. Already the *Alabama* had a heavy list to starboard, and the water was pouring in through numerous shot-holes on the water-line : the end was approaching.

About this time a shot struck the halyards of the *Kearsarge's* second ensign, which had been stopped at the mizzenmast head

* The *Alabama's* magazines were in a hot part of the ship. The powder had also been long on board. The fact that none of the shots from the rifled 100-pounder went through the chain-armour shows that there must have been something very wrong with the ammunition.

ready to be unfurled in case her other flag was shot away, or if victory inclined to her. The colours were disengaged and floated free, an omen of victory, amidst a round of cheering. Up to now the *Kearsarge* had suffered little harm; three men only had been wounded, one mortally; and her captain was just upon the point of closing for the serious work, when the *Alabama* suddenly ceased her fire, set her fore trysail and jib and strove with sail and steam to reach neutral waters. Her port broadside came round in sight of the Northerners, for the first time; they could see that it was full of gaping holes, and that only two guns protruded. Every effort was being made to heel the *Alabama* over to the port side and so stop the numerous shot-holes on her starboard. But her engineer reported to Semmes that the water had reached the stoke-hold and extinguished the fires. The ship was filling fast, and already the *Kearsarge* was standing across her bow to rake her. Further resistance was hopeless, and could only result in useless bloodshed. The *Alabama* hauled down her flag as the *Kearsarge* crossed her bow 400 yards away. For a moment the Northerners doubted her surrender, imagining that this was one of Semmes' tricks. But when the white flag went up they knew that her career was over. At this point, by their account, though this is denied by those on board the *Alabama*, some fresh shots were fired by her, and the *Kearsarge* at once replied with terrible effect. The *Alabama* began to settle by the stern, whilst her enemy looked on. She sent one boat to the *Kearsarge* to make the formal surrender, whilst a second was quickly filled with wounded. Those who were unhurt were bidden to take spars and jump into the sea. At ten minutes to one the *Alabama* went down, her stern plunging deep into the water whilst her bows rose in the air.

The *Kearsarge* made no effort to save the drowning men, but her captain hailed the English yacht *Deerhound*, which was at hand, and requested her to do what she could. She steamed into the midst of the floating wreckage, cast ropes to

those swimming in the water, and picked up the boat in which was Semmes, who had jumped into the sea, but had been found swimming and hauled into it. In all twenty-eight men and fourteen officers were recovered by the yacht, when, having saved all the men she could, she ran for the English coast with all speed. Winslow seems to have imagined that she would have handed over to him all those whom she had rescued, and certain Northern writers have accused her owner and captain of bad faith in the matter. The facts were that she had been requested to do work which the *Kearsarge* should have done, and when the men were once on board her to surrender them would have been a grave breach of our neutrality towards the Confederate States.

The *Kearsarge* remained on the spot, and tardily sent two boats to pick up the remaining men. She then steamed to Cherbourg, and landed her wounded for treatment in the hospital. Her crew fraternised with the uninjured prisoners, sharing their food, grog, and clothes with them. The bitterness between the North and South had been removed by bloodshed, and each side felt that it had won honour. In the battle the *Kearsarge* fired 173 projectiles, of which forty are estimated to have struck the *Alabama*. The *Alabama* fired 370, hulling the *Kearsarge* fourteen times, and striking spars or rigging twice as often. Her shells frequently failed to explode, and her gunnery was very indifferent, though it grew much better towards the close of the action. Her gunners' want of practice led to a great waste of ammunition. Off the coast of Brazil, months before, they had fired a few rounds at a captured ship, upon which occasion it was noticed that the fuses of the shells were unsatisfactory. She lost nine killed* and twenty-one wounded in the action, a fifth of her crew, whilst ten men were drowned. Seven circles were completed by the two ships before the *Alabama* endeavoured to retire.

* P. H. Haywood, who served on board her, states that the loss was really far higher, and was deliberately misstated. Cruise of the *Alabama*, 147.

The excellent gunnery of the *Kearsarge* and the training and discipline of her crew were the decisive features; the ships were as nearly equal as could be. Each, to quote Professor Soley, was armed in the manner which was thought best for a small cruiser.* Yet the great size of the *Kearsarge's* 11-inch shells seem to have been one of the causes of her victory. On the *Alabama* the six 32-pounders could not be seriously reckoned upon, and shot exceedingly badly.

The *Nashville*, whose destruction by the *Montauk* we have already noticed,† was a paddle-steamer of 1300 tons, built and owned in the North, and seized at Charleston on the outbreak of the war. On October 21st, 1861, she ran out of Charleston and crossed to England, destroying on her way one vessel. When she arrived at Southampton she found herself under the observation of the *Tuscarora*. In spite of an ingenious attempt by the latter to avoid the twenty-four hours' law‡ she got out safely and recrossed the Atlantic, capturing a second vessel. After this she was employed in the blockade-running trade till at the last she was burnt, as has been narrated. She carried forty men, and was armed with two brass 12-pounders. In all she made two prizes.

The *Georgia* was, like the *Alabama*, purchased in England by the Confederate commissioners. Her name had been the *Japan*; she was of 600 tons and 200 horse-power, and had been built at Dumbarton. The Northern minister in England got wind of her transfer, and, having communicated with Lord Russell, orders to detain her were sent down to Scotland. The day before they reached Glasgow she was off. On April 1st, 1863, she put to sea and steamed round the English coast to the neighbourhood of Morlaix, where a vessel with her armament and stores was awaiting her. All her guns

* Soley. Blockade. 207.

† Page 90.

‡ The Federal ship lay with steam up, and whenever she saw the *Nashville* about to start, moved off first herself. Thus the *Nashville* was liable to detention by the twenty-four hours' law, and was kept unable to move.

were Whitworth rifles; her armament consisting of two 100-pounders, one 32-pounder, and two 24-pounders. She had one defect, which was found to militate very strongly against her success as a commerce-destroyer, since her sail-power was quite insufficient to enable her to cruise without steam. She remained at sea for about a year, capturing in the Atlantic nine prizes, of which four were ransomed and the rest destroyed. Returning to England, she was sold to an Englishman for £15,000. The United States Government received information of the sale, and holding, as it well might, that a belligerent warship cannot change hands in the time of war, determined to seize her on the first opportunity. She was captured by the *Niagara* whilst proceeding to Lisbon under a Portuguese charter, and condemned by the United States' prize court. Her owner obtained no satisfaction beyond the £6000, for which he had insured her, as the British Government very rightly refused to interfere.

In November, 1863, the English Admiralty sold a rotten and antiquated despatch boat, the *Victor*, to gentlemen, who handed her over to the Confederate commissioners. She was docked at Sheerness and made just sea-worthy, after which she put to sea with a small crew, under the name of *Rappahanock*. Being in wretched condition she got no further than Calais, where the authorities laid an embargo upon her. She remained there till the close of the war, and was employed as a Confederate receiving ship.*

Next in the series of cruisers comes the *Sea King*. She was a very fast vessel, fitted with a lifting propeller, and had good sail-power; her cost was £45,000, and she had been engaged in the East Indian trade. She sailed on October 8th, 1864, and met off Madeira a tender carrying her guns and stores. Two 8-inch smooth-bores, two Whitworth 32-pounders, and two 12-pounder rifles were put on board. A nominal sale was effected; after which the ship

* This was a far worse breach of neutrality on the part of France than any committed by England.

hoisted the Confederate flag and assumed the name of *Shenandoah*. She was very short-handed, as few of the men who had engaged for the *Sea King's* voyage would continue their engagement when the true object of the ship became known. Her destination was the whaling ground of the North Pacific Ocean in accordance with a plan formed by Commander Brooke of the Confederate States' navy. Northern shipping had been almost entirely driven from the sea, but in the remote regions of the Japan Sea and Arctic Ocean the whalers still remained. They were attacked with all the more zest by the South, because they hailed from the New England States, the backbone of the North. The *Shenandoah*, shifting as best she could, rounded the Cape, making very few prizes, and stood across the Indian Ocean to Melbourne. Here she met a tender laden with coal, and through the remissness of the authorities was allowed to be thoroughly repaired on a slip.* Her machinery was overhauled; forty-two men were enlisted; and after a stay of a month she set out for her destination. The war was over when she reached Behring's Sea, but authentic intelligence had not yet reached her. She burnt a large number of whalers, before, on June 28th, 1865, she finally learnt that the Confederate States had ceased to exist. She made for England under sail, traversing the whole distance of 17,000 miles without speaking a single ship. At Liverpool she was handed over to the British Government, after she had made thirty-six prizes, worth $1,361,000. Of these thirty-one were destroyed and five ransomed.

One more important vessel remains to be noticed. The *Atlanta*,† a blockade-runner, was commissioned at Wilmington as the *Tallahassee* in August, 1864, and at once ran out up the coast. Only eighty miles from New York she captured a schooner and four other vessels, one of which, the *Funk*, was converted into a tender. She ran within sixty miles of New

* On eleven occasions Southern cruisers repaired in English ports; on thirteen occasions Northern warships. Bulloch, ii. 181.

† A twin-screw 14-knot Thames-built steamer.

York, intending to steam up Long Island Sound and make a dash at the Brooklyn Navy Yard. There was the wildest alarm at New York, but she never carried out her project, which might have been feasible. Off the Maine coast she fell in with the fishing fleet, which she harried, then stood into Halifax, re-coaled there, and returned. She made twenty-nine prizes of which two were released and five bonded; the rest were destroyed. Under the name of *Olustee* she again went to sea October 29th, 1864, and, after an exciting chase by the *Sassacus*, captured six prizes. On her return, her battery was taken out, and she recommenced the work of blockade-running. On December 24th, 1864, she made the trip to Bermuda, but finding it impossible to return. crossed to England, where she was seized and handed over to the North. *

In all, the Confederate commerce-destroyers and privateers captured 261 vessels. Almost all these were sailing vessels, indeed the mail vessels, *Ariel* and *Electric Spark* were the only steamers taken on the high seas. The loss which fell upon the United States was heavy, but it was not so heavy as it would have been had the Confederates been successful in their attempt at secession, as the bonds of ransom were only to be paid in the event of the independence of the Southern States being acknowledged. Yet these losses, such as they were, ruined American shipping. It had recovered from the blows we dealt it in the war of 1812, and was once more competing with us. The Civil War rid us of the competition. In 1864 Mr. Milner Gibson, speaking at Ashton-under-Lyne, remarked that in 1863 the clearances of British ships from English ports had increased by fourteen million tons, whilst there had been

* Several ironclads were built for the Confederate Government in England or France. Of these only the turret-ship *Stonewall* succeeded in getting to sea. She had 4·7-inch armour, ram-bows, and carried one 300-pounder and two 70-pounders. She was only just ready at the end of the war, and was finally sold to Japan (see p. 311). Two other turret-ships were built at Birkenhead and pre-empted by the British Government. In the British Navy their names were *Scorpion* and *Wivern*.

a decrease in American ships engaged in trade with England, amounting to 46 or 47 per cent. It may be said that this decrease was partly due to the universal adoption of iron ships propelled by steam, in which the United States lagged behind, partly to the large number of steamers purchased by the Northerners for war uses, and so taken from trade. Both these causes may have contributed in some degree to the diminution, but the real *causa causans* of the decline was the action of the Confederate cruisers. On every sea American shipping disappeared, or could only steal to its destination by devious routes. At Singapore Semmes found twenty American ships laid up, and there were numerous transfers of vessels in addition.* As free ships make free goods by the Treaty of Paris, whilst free or neutral goods can secure no exemption for belligerent bottoms, merchants of whatever nationality would not employ Northern vessels. As usual the neutral gained, and the neutral to whom the chief advantage accrued in this instance was England.†

These facts may well make us uneasy. We above all nations live by commerce; and our shipping includes two-thirds of the world's carrying power. If it is as vigorously attacked and harried as was the Northern commerce, will it not be driven from the sea? To decide this we must first consider the methods of the Confederates, and the

* Semmes. Service Afloat. 780. There were also two American ships laid up at Bangkok, one or two at Canton, two or three at Shanghai, one at the Philippines, and one or two in Japan. "The birds had all taken to cover."

† The case of the United States, as presented to the Arbitrators, gives on p. 130 the following facts. In 1860, "two-thirds of the commerce of New York were carried on in American bottoms; in 1863, three-fourths were carried on in foreign bottoms." The transfers from the American to the British flag were as follows:—

1861.	126 ships.	.....	71,673 tons.
1862.	135 ,,	.....	74,578 ,,
1863.	348 ,,	.....	252,579 ,,
1864.	106 ,,	.....	92,052 ,,

The *Alabama's* career began in the autumn of 1862. Its effect is manifest.

dispositions of the Northern strategists to meet their attacks. We may then be in a position to pronounce our decision.

"It was not the particular smartness of Semmes that enabled him to escape capture; it was the omission or indifference of the Navy Department in not sending proper vessels to the right localities," says Admiral Porter.* Indeed this indifference astonishes us. Semmes's plan was to proceed to a cruising ground on one of the main ocean routes and remain there about two months—in fact till the news of his exploits reached the Northern States, when he moved on. Most of his captures were made in three localities: off the Azores, and a little south of them; near the Newfoundland Banks; and at the junction of the trade lines west of Bahia in Brazil. In the West Indies he only took five vessels, between the Cape and the China Sea only nine, three of which were captured off the Cape on his voyage from South America. The Atlantic was the scene of his chief exploits, as it was the theatre of the *Sumter's*, *Georgia's*, *Florida's*, and *Tallahassee's* action. The strategical points in the Atlantic should have been watched with the greatest attention. One fast cruiser should have observed the Azores, a second Madeira, a third the Canaries. Off Cape San Roque should have been stationed two more, whilst a third should have remained at Fernando Noronha. In the West Indies, the Florida Strait, the Windward and Mona Passage required attention. England, as the source and origin of the Confederate cruisers, demanded careful surveillance. Cruisers should have been kept at Belfast, Holyhead, and Plymouth, ready to start at a word from the American minister, who always obtained full informa-

* Porter. 642. Bulloch, ii., 183-6, also comments on the inactivity of the Northern cruisers. "It does appear extraordinary that with the large naval force which the United States controlled during the war, a few Confederate ships should have been permitted to cruise through the two oceans at will, and to destroy so many vessels just where any intelligent naval officer would know where to find them, and where it should have been known that the hostile cruisers would be sent."

tion of vessels in progress.* At the Cape, at Point de Galle, in the Malacca and Sunda Straits, should have been fresh ships on the watch. In all, sixteen vessels would have been required, with crews amounting to, perhaps, two thousand men. Instead of pursuing this policy, the American Government stationed a flying squadron in the West Indies, which invariably allowed its antagonists to escape when it had found them. A solitary ship, the *Vanderbilt*, was despatched on a roving commission in search of the *Alabama*, though four vessels would not have been too many. She left January 27th, 1863, when the cruiser was known to be in the West Indies. Her orders were to visit Havana, and, if any information could be obtained of the *Alabama's* destination, to act upon it at once. Otherwise, she was to visit the West Indies and cruise in the Mexican Gulf, proceeding along the coast of Brazil to Fernando Noronha and Rio, thence to the Cape, and back by St. Helena, Cape Verde, the Canaries, and Madeira to New York. On February 28th, 1863, she fell in, unfortunately for the North, with Captain Wilkes, of the flying squadron. He immediately annexed her, went on board, hoisted his flag, and wrote despatches to the justly indignant Navy Department, dwelling on her speed, her commodiousness, and her excellent qualities. Only in response to a peremptory order would he let her go on June 13th. She at once steamed for Noronha, where she arrived ten weeks after the *Alabama*. Had the original plan been followed, she would have been waiting for the *Alabama*, and might perhaps have ended her depredations.† As it was, she was everywhere behind her. The great mistakes made were in not closely guarding that important part of the Atlantic where Africa and America approach each other, and in neglecting the small Spanish and Portuguese islands in the

* Bulloch's two volumes are full of complaints of Northern espionage.

† The *Vanderbilt* was not, however, a strong ship; her engines were much exposed, and her armament was not particularly formidable.

central Atlantic. Nor would these measures have necessitated any relaxation of the stringency of the blockade. The North had a considerable number of detached cruisers in various parts of the world, but, handled without much skill, they failed to achieve any result. The *Wyoming*, which should have guarded the Sunda Straits, was absent from her station when the *Alabama* arrived. It may have been bad luck, but it may also have been bad management.

What would have been the result if the measures suggested had been followed, in the case say of the *Alabama*? Immediately she had gone to sea, the cruisers waiting for her at Holyhead and Belfast would have been warned; the one would have watched the Irish Channel, the other the North Channel. Suppose that she eluded the Northern ship in the Irish Channel, the Plymouth cruiser would still have had to be passed. Let us assume, however, that she gets clear away from English waters: it is known in a day or two to the American minister in London, who communicates with the cruiser captains who have returned to port. The *Alabama* is known to have no armament: she must get one somewhere. Either she has stood over to America and will ship it in some Confederate or neutral port, or she will run to some out of the way island or harbour in the hands of a weak power where she will do the same. In the first case the American squadrons will look after her. In the second case Africa or Brazil will be her destination, where also she will find vigilant opponents. However, a cruiser is ordered after her down the Atlantic. Meantime the *Alabama*, still without an armament, has steamed to the Azores: she finds a Federal cruiser is at hand and leaves at once. The same at Madeira and the Canaries. In the end she ships her guns on the African coast, but even now she cannot harry shipping at the point where she can do most harm, because it is vigilantly watched. Her career would not have lasted long under such circumstances. As there was no telegraph cable between Europe and the United States in those days, the Federals

should have taken a leaf from their opponents' book. They should have planted an auxiliary Naval Department in London, placing in its control as many cruisers as could be spared. The Confederates practically did this, so little objection could have been offered by the English Government. It might have been difficult to procure coal, yet, as the Confederates found it possible, it could not have been out of the power of the Northerners. The narrowing of the world by the telegraph has made such a measure no longer necessary, but it might have proved most valuable in 1863-4.

It appears then that without any very serious exertions the great bulk of Northern commerce might have been protected, though, of course, a few isolated ships would have been lost from time to time. The Southerners disposed of no war-fleet, no mercantile marine, no ports, no coaling stations, no docks. They had to rely upon purchase, and neutrals were not at all ready to look favourably upon their attempts to buy ships. In England the Government was somewhat slack,* and the sympathy of the upper classes was undisguisedly in favour of the South, but in spite of this it was difficult to get the purchased ships away.† However loudly the United States Government complained it should have remembered the War of Independence, when under Johnston United States' cruisers carried British prizes into the ports of France, then neutral, and sold them there; when Captain Connyngham fitted out the *Surprise* and manned her in a French port. A neutral power is always in an awkward position, and cannot hope to satisfy either of the belligerents. There were as many complaints from the Confederates as from the

* There was negligence which I have called culpable, because it is to England's interest to see the United States strong and undivided. French aggression in Mexico would have been the result of the success of the Secession. But putting aside ties of race, and viewing the behaviour of England as that of a neutral to a belligerent, no great fault can be found.

† Bulloch *passim* justifies this statement *See* especially i., 369, 454

Federals, and more would have been heard from them had they succeeded.*

The Geneva Arbitration sentenced us to pay £3,100,000 for the damage the *Florida*, *Alabama*, and the *Shenandoah*, in the latter part of her career, had inflicted.† We accepted the award, and we may, perhaps, rest satisfied. Henceforward the United States, if in the position of a neutral power, cannot fit out or equip cruisers for our enemies, or allow them any facilities for coaling and effecting repairs. As we have coaling stations everywhere, and as we possess

* England was throughout the war far stricter in her treatment of the Confederate cruisers than France. The latter power paid no attention to the remonstrances of the North, and was to the Federals a malevolent neutral. And no indemnity was ever claimed from France, though in a French port the *Florida* shipped a large number of men; in a French port the *Georgia* was docked; in a French port the *Rappahannock* remained eighteen months, flying the Confederate flag.

† It is best to bury this evil past, but it is impossible not to be struck with the want of statesmanship in the English ministries of the time. If the *Alabama* claims were justly made, they should have been paid at once; and even if they were unjust, there was something to be said for propitiating our kinsmen. As too often, we refused to comply with the demands of the United States, only to give way on second thoughts. The story is honourable to neither nation. As international law then stood, England had committed no serious wrong, and it was only when she admitted the three famous rules that she became liable. She was in fact judged by *ex post facto* laws, which were made retrospective. The three rules are as follows.

"A neutral government is bound:

1. To use due diligence to prevent the fitting out, arming or equipping within its jurisdiction, of any vessel which it has reasonable grounds to believe is intended to cruise or to carry on war against a Power, with which it is at peace; and also to use like diligence to prevent the departure from its jurisdiction, of any vessel intended to cruise or carry on war as above, such vessel being specially adapted, in whole or in part, within such jurisdiction to warlike use.

2. Not to permit or suffer either belligerent to make use of its ports or waters as the base of naval operations against the other, or for the purpose of the renewal or augmentation of military supplies or arms, or the recruitment of men.

3. To exercise due diligence in its own ports and waters, and as to all persons within its jurisdiction, to prevent any violation of the foregoing obligations and duties."

PLATE IX. H.M. OCEAN CRUISER BLENHEIM.

See ii., 256.

innumerable shipbuilding yards, this is all in our favour. The millions we paid render an attack upon our commerce far more difficult, but we paid them, not because international law had been violated, but because we were ready to submit to injustice rather than fight our kindred oversea.

In any war with a European antagonist we should not be able to blockade his coast-line as the North blockaded the South. A very large number of cruisers or privateers would get to sea, and our loss would beyond all question be very serious. National insurance would, however, counteract most of the evil, whilst our very considerable cruiser squadrons in distant waters could be trusted to restrict the operations of our enemy. All the important strategic positions are watched as it is, so that the scene of our opponent's assaults would probably be the northern and central Atlantic, besides the Mediterranean. Here convoy could be very well employed, and would suffice to keep off the improvised commerce-destroyer. Steamers cannot be destroyed in droves like sailing ships, for the reason that they can scatter, not having to consider the direction of the wind. A light armament of quick-firers would protect them from insignificant craft. Thus it does not appear that we should be beaten to our knees by any policy of warfare against commerce, provided always we take reasonable precautions and keep a large margin of cruisers, in addition to those light vessels which are required for squadron warfare. We cannot have too many cruisers, and we cannot take too many precautions.

Before dismissing this subject the absolute strategic inutility of commerce-destroying must be remarked.* The Northern flag was driven from the sea, and yet what effect had this

* Bulloch, ii., 197, asserts that the commerce-destroying had a strategic object: "the collateral purposes were to compel the United States Navy Department to send many of their best ships abroad, for the pursuit of the Confederate cruisers." But a very few Federal ships, if well-handled, could have disposed of the commerce-destroyers or stopped their ravages.

upon the issues of the war? In no single respect did the South benefit, except by the venting of a certain spleen upon the North. The record of the Southern cruisers is one of purposeless, pointless, almost wanton destruction. The whaling fleet was burnt by the *Shenandoah* when the war was decided. We may deeply regret that England tolerated the acts which she did on the part of the Southern commanders, though, as we shall see, England had had considerable provocation from the North, which perhaps rendered her less exigent against the depredators. We may still more deeply regret that such a warfare against commerce is tolerated by international law. No nation with any backbone will ever be beaten by it to its knees.* Then should it not be regarded as barbarous?

* Except possibly England, which occupies a very peculiar position, analogous to that of the South, in her dependence upon foreign food supplies.

CHAPTER IX.

The Blockade, The Blockade-Runners, and International Law.

The secession of the Southern States from the Union became a fact early in 1861, when each side made its dispositions for war. On either side there was a democracy without an army, and for all practical purposes without a fleet. The difference between the two sections of the United States lay in this, that the North was a self-dependent community, whilst the South had to draw on Europe or the manufacturing North for most of its requirements.

It may have been the knowledge of this fact, or merely the wish to frighten the South which led to the proclamation of the blockade by Lincoln. Undoubtedly, as the war proceeded, the North realised more and more the advantages which were derived from the policy of blockade, and was prepared to make greater and yet greater sacrifices to maintain it. The position of the South was very peculiar. The Confederates were entirely an agricultural people; their staple product was cotton, in the growth of which they had the monopoly. This plant was raised, by slave labour, along the low and swampy stretch of coast which fringes the States of South Carolina, Georgia, and Florida. It was exported to England to the extent of over a thousand million pounds yearly, and in a smaller degree to France, whilst on the profits derived from its sale, the South may be said to have subsisted. The interruption of the cotton trade would, then, have two effects. In the first place it would deprive the Southern States of their only pecuniary resource. In the second place it would make England and France anxious for the termination of the war,

owing to the great distress which the stoppage of the supply of the raw material would cause amongst their operatives. The Federals imagined that this would bring England to their side, whilst in the South it was regarded as an absolute certainty that we should be driven to assist the Southerners. The other Southern products were sugar, tobacco, and rice; but these crops could not compare in magnitude with cotton. It may be said without exaggeration that on cotton and its free export, the financial stability of the South depended.

In the Confederate States at this time, there was scarcely such a thing as a manufactory. In the whole area of the South there were but five ironworks, two of which would not at first undertake to supply the Confederate Government, whilst only one had machinery for rolling iron plates of any thickness. From first to last no plates were made in the South which were thicker than two inches. Iron was so scarce that it soon rose to a fabulous price, fetching $1300 (£260) a ton. Old rails, scrap iron, bars were sought eagerly for, and used in the manufacture of armour. Though there are rich iron mines in Tennessee and Georgia, these had not been developed in 1861; the country depended for iron and manufactures upon the North. There were no cloth mills, no cotton mills, no powder works, no factories where cannon, rifles, bayonets, or even knives could be made.* The very machinery for ginning and carding the staple export came from abroad. There were no chemical works, and chloroform, drugs, and drysalter's wares were unprocurable. Everything had to be improvised on the spur of the moment. The North, on the other hand, was well equipped with the means of production, and had artisans and skilled labour in abundance.†

The first aspect of the blockade was the prevention of the cotton export; the second was the prevention of the importation of the thousand implements which are required for war.

* Jefferson Davis. Confederate Government (i., 471—483) gives a very striking account of the feeble military resources of the South.

† Unsuccessful attempts were made to run English ironworkers into the South.

Military stores, ammunition, arms, medicines, clothing, and saddlery were excluded. The blow which was thus struck at the South can scarcely be exaggerated. Whilst the North could make what it wanted at home or purchase it in foreign markets, the South could only manufacture in an imperfect degree, and was cut off from the foreign market. The blockade steadily reacted upon the land warfare by depriving the Confederates of any means of repairing their losses. They had at the outset seized a large number of rifles and cannons at the various United States' arsenals which fell into their hands. As they lost these through use and deterioration they found it difficult to replace them.

There is another very important point to notice. The coast line of the South extended for nearly three thousand miles, from Chesapeake Bay to Mexico. The population of the Southern States was extremely scanty, as the whites did not in all probability exceed seven millions.* If the negroes were not unfaithful to their masters, they could not be allowed by Southern sentiment or considerations of expediency to bear arms on their behalf. Now of this scanty population a great portion was concentrated on the seaboard or in the Mississippi valley, exposed, that is to say, to the action of sea power. With the exception of Richmond and Atlanta the large cities were on the coast; communication between them was bad on land. Roads were few and of deplorable roughness, whilst the railways were, at that date, ill-planned from a strategical point of view, and by no means numerous, The lines generally ran from the ports to the interior, whereas strategy would have required them to intersect the country, converging on Richmond.† Wilmington alone had absolutely

* The total free population of the slave states in 1860 was 8,062,470, with 3,999,853 slaves. But of the slave states, Maryland, Delaware, Western Virginia, almost the whole of Kentucky, and parts of Tennessee and Missouri, remained steadfast to the Union. The estimate in the text is a high one, and possibly the staunch Confederates did not exceed five millions.

† Between east and west—between the Atlantic and the Mississippi valley—there was but one through railroad for some miles west of Chattanooga.

direct communication with the capital. Steamers on the sounds and rivers connected the centres of population. The blockade stopped this intercourse, and may be said to have sundered the South into a number of fragments, though this must not be pressed too far. The coast line again is singular. A long line of small islands and low sandy spits intercepts the surf of the Atlantic and gives interior communication through the sounds. Two of these great inland sheets of water call for description. The first, on the coast of North Carolina, is sheltered by Hatteras Island, and sends shallow arms far up into the heart of that state; Albemarle Sound, Pamlico Sound, and the estuaries of the Pamlico and Neuse Rivers are its chief indentations. To the south, between New Orleans and Mobile Bay, is a long shallow stretch of water similarly protected, called Mississippi Sound. Virginia, again, is much cut up by deep estuaries, at the head of one of which, the James River, Richmond, the Southern capital, is situated, though for some miles below the city the river can only be ascended by small craft. By holding these waters the North could threaten almost every part of the Southern States, and could readily open up communication with Northern forces acting in the rear of the Confederate capital.

On all sides the South was exposed to the pressure of the North. Only in one direction did the land frontier of the Confederacy touch a neutral state, where Texas marched with Mexico. Across Kansas and the Indian territory there was as yet no communication, and even Texas was not connected with the Southern railway system. The Mississippi, in 1863, passed into the hands of the North from source to sea, and the trade across it was stopped or very much hampered by the Union gunboats. Yet Matamoras retained something of the trade which it had developed at the outbreak of the war. Contraband goods were poured into it, but it must have been difficult to get them thence to Richmond, or even to Atlanta. The port could not be blockaded, as it stood on Mexican territory just across the frontier, but whilst this trade gave rise

to international disputes, it cannot be said to have affected the issue of the struggle.

Such were the conditions when, on April 19th, 1861, Lincoln proclaimed the blockade of the coasts of South Carolina, Georgia, Florida, Alabama, Louisiana, Mississippi, and Texas. By the terms of the proclamation vessels approaching or attempting to enter any port on the blockaded coast were to be warned by the commanders of Federal warships, and the warning was to be endorsed on their register. If any subsequent attempt to enter was made by such vessels, they were liable to seizure and condemnation. A month later Virginia and North Carolina were included in the blockade. The proclamation brought immediate difficulty. The North maintained that the Southerners were not belligerents, and had no belligerent rights. By interfering, however, with neutral trade, they virtually conceded belligerency to the South. Lincoln's cabinet contended that any state can exclude foreign shipping from its own ports if it chooses; and obviously it can, but then it must not search foreign ships on the high seas. England* and France at once acknowledged the South as belligerents. Moreover, the blockade was at first wholly theoretical. It is an axiom of international law that a blockade to be binding must be effective, that is to say, that it must be backed by such a fleet as renders it extremely difficult for any ship attempting to break the blockade to escape capture. This, in its inception, the Northern blockade was not. It was far more a paper measure than our proclamation of 1807. For what force had the proclamation behind it?

The total fleet of the United States, at the outbreak of the war, numbered ninety vessels. Twenty-one of these were unserviceable, twenty-seven were out of commission, and only forty-two had officers and crews. Moreover, eleven of the best ships not in commission were at Norfolk, in Virginia, a

* The English acknowledgment was made May 13th, 1861.

Southern navy yard. Of those in commission twelve only were on the Atlantic coast; three were in the Mediterranean; two in Brazilian waters; seven on the African coast; three in the East Indies, and the remainder, excluding store-ships, on various foreign stations, far removed from the scene of conflict. Seven thousand six hundred officers and men were all the trained sailors, and no fewer than three hundred and twenty-one of the best officers resigned rather than fight the South. The measures taken were vigorous. Seven large steamers were bought at once,* and one was at sea forty-eight hours after her purchase. Every effective ship was commissioned. One hundred and thirty-six vessels were purchased and equipped for sea, being every possible ship upon which the Northern Navy Department could lay its hands. Fifty-two vessels were hastily laid down, including thirty-nine "double-enders," † or light-draught gun-boats, eight fast ships, besides ironclads ‡ and mortar-boats. "Tin-clads," which were river gun-boats, protected by bullet-proof iron, were pushed forward for service on the rivers. The great difficulty was to obtain seamen. But the North included a large seafaring and fishing population. The whalers of New England were famous for their seamanship, and from their ranks good recruits were obtained. Engineers and mechanics could be found in abundance. So the Northern fleet expanded to bear the strain of war.

The South had no shipping and no seamen. Steamers could not be obtained by the score for war purposes, and thus the North was given time to put its house in order. Had the South possessed even the semblance of a fleet, the history of the war might have been very different. As things were, the Confederates had captains and lieutenants in plenty, without ships to command. Hence the naval war on the part of the South assumed a merely defensive aspect, with the single

* May 1st, 1861.

† They were paddle-steamers with a double bow and a rudder at each end.

‡ On the Mississippi. There was a delay in ordering sea-going ironclads.

exception of the commerce-destroyers. Commerce-destroying, however, is itself a defensive measure—a confession that the ships or men who conduct it cannot face the enemy's organised fleet—and is the resource of weak states. Therefore, we may say that the North everywhere attacked, and the South everywhere defended.

The North had entered upon the blockade without any very clear idea of the task proposed. The Northern leaders seem to have imagined that the simple announcement of it, and the stationing of one or two old vessels as scarecrows on the Southern coast would warn off neutrals. They were woefully deceived. Instead of proclaiming the closure of one or two ports, off which they had vessels, they had given themselves away by pretending to seal the whole coast-line. On May 11th, 1861, the *Niagara* appeared off Charleston, after a futile attempt had been made to block the entrance to that port by sinking twenty-five schooners laden with stone in it. A few days later the *Powhattan* was in the Gulf of Mexico, and the *Brooklyn* off the Mississippi. The *Harriet Lane* had already appeared off New Orleans, but only to withdraw. There was no fresh notification of the blockade, and the *Brooklyn's* commander merely informed the Confederates in the forts that the Mississipi was closed. At the same time Northern cruisers warned off a certain number of neutral ships from ports which were not in reality blockaded. For these acts, the United States had afterwards to pay damages. Instructions were sent by the English government to Admiral Milne, our commander on the station, that the escape of three vessels in succession from a blockaded port should render the blockade at that point invalid, but they were not in practice adhered to.

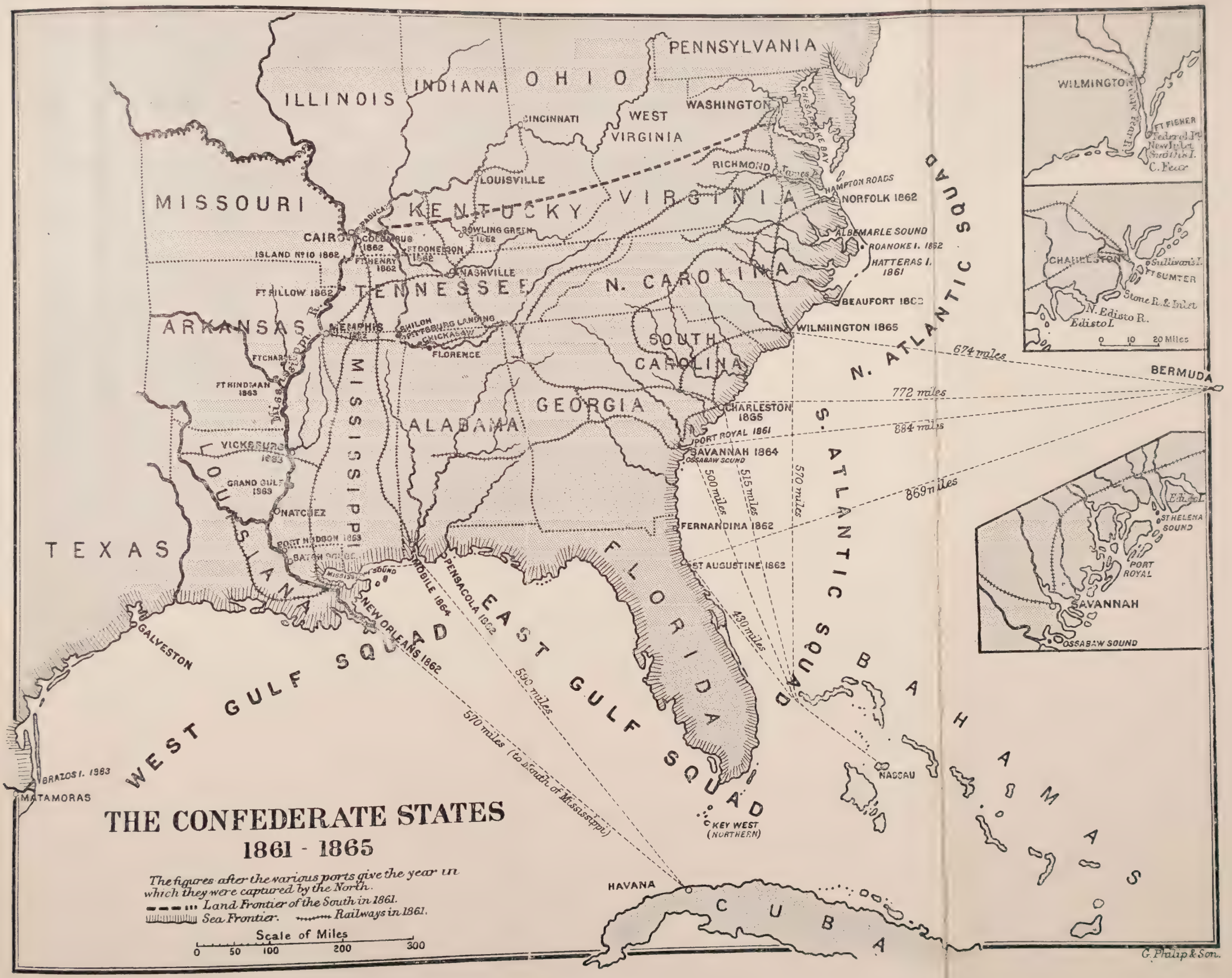
By the end of July, 1861, Union ships were watching all the more important ports, but trade went merrily on. On August 17th, 1861, there were four Federal ships before Charleston in the offing, but three schooners or steamers got in that day alone. At Wilmington, vessels came and went at

their own sweet will. Still, prices in the South were rising; coffee, coal, and ice fetching a high figure. About this date, fresh ships were added to the blockading forces, and the stringency grew greater. River and ferry steamers with heavy guns hastily mounted, small trading steamers and larger mail-boats, arrived one by one upon the scene. Many of them were very unseaworthy craft; none of them had been built for war purposes; and one and all leaked from the concussion of their heavy guns. Indifferent craft, manned by indifferent crews, they stood in need of constant repairs. It became necessary for the North to obtain bases near at hand, on the blockaded coast, where these vessels could refit. Perhaps it was not in the first instance strategical insight, though the great ability of Fox, the strategical adviser, is unquestionable, which drove the North to the successive occupation of important points on the Southern coast, but the requirements of the blockading squadrons.*

In August, 1861, Hatteras Island was occupied; in November, Dupont reduced Port Royal; in February, 1862, Roanoke Island was added; in March, Fernandina and St. Augustine's, Florida; in April, Beaufort, North Carolina; and New Orleans, the latter by Farragut's skill and daring; in May, Norfolk, Virginia, was recaptured, and Pensacola, a valuable arsenal in Florida.† Thus, by the summer of 1862, a year after the blockade commenced, the North had greatly reduced the number of points to be watched, and at the same time obtained nine new bases close at hand for the use of its squadrons, in addition to the small dockyard of Key West, which had never passed into the hands of the seceders.

* As far back as the days of the Peloponnesian war the occupation of a number of strategic positions on the enemy's coast-line had been the war policy of the naval power. Thus Athens under Pericles and Cleon laid her hands upon Naupactus, Cythera, Sphacteria, and other places.

† From the outbreak of the war the North had possessed four well-equipped dockyards—Portsmouth, Boston, New York, and Philadelphia. The South, except Norfolk, had not one where ships could be built, as Pensacola was a repairing yard.



THE CONFEDERATE STATES
1861 - 1865

The figures after the various ports give the year in which they were captured by the North.

Land Frontier of the South in 1861.

Sea Frontier. Railways in 1861.

Scale of Miles

0 50 100 200 300

G. Philip & Son.

The squadrons employed in the work numbered four. From Chesapeake Bay to Wilmington extended the North Atlantic squadron; from Wilmington to the Bahamas, the South Atlantic; from the Bahamas to Pensacola, the East Gulf; and from the latter place to Matamoras, the West Gulf. At the same time, though the blockade-runner's business had been rendered somewhat risky, it had been by no means stopped. In August of this year a Federal officer off Wilmington, wrote: "The blockade seems to me a farce; there are fifteen miles to guard with only two steamers." *

As the war continued the blockade grew severer, and more and more ports were occupied. Brazos Island, in the Rio Grande, was seized in November, 1863, to cut off Texas from Matamoras, and check the contraband trade which had grown up with Mexico. Savannah fell December, 1864, Charleston and Wilmington early in 1865. Mobile Bay had passed into the hands of the North in August, 1864. In its last death-agony the South was left without ports. From Chesapeake Bay to the Mississippi the coast had passed under the power of the North; a ring-fence surrounded the hapless Confederacy, but it was a ring-fence built up as much by the army as by the fleet. Sea power made the occupation of the Southern ports possible, the military strength of the North made it practicable, both by supplying troops for expeditionary forces and by holding the Southern armies in front of Richmond. We must not forget that the miscellaneous jumble of ramshackle vessels, which were found at so many points in 1863 and 1864, could not, with their scratch crews, have withstood a small but well-organised naval force, and that, had not the Southern population been scanty, and its whole manhood diverted to the north and west, the diminutive Federal garrisons would not have been left in quiet possession of Pensacola, of Norfolk, and of New Orleans.

A typical blockade was that of Wilmington, towards the close of the period 1863-4. The port lies some miles up the

* Quoted in Scharf, 475.

Cape Fear River. Off the estuary of this river lies Smith's Island, thus giving two approaches to the harbour, which are parted by a distance of thirty miles, as shoals run far out to sea from the island. The squadrons maintaining the blockade were two in number, one comparatively small, and including the faster cruisers in the offing; the other inshore of thirty vessels, mostly improvised warships, disposed crescent-wise round the Cape Fear entrance, the centre being just outside the range of the heavy guns of Fort Fisher, whilst the horns approached the shore. The whole line was ten miles long, but only watched one of the two entrances. The cruisers on the horns were placed as near to the shore as possible to thwart blockade-runners, who generally crept up the coast.

In addition to the inshore and offshore squadrons before each port, there were Federal warships cruising in the Gulf Stream, and isolated vessels watching the neutral ports from which the runners started. Indeed, the watch off Bermuda and Nassau was nearly as vigilant as that off the Confederate ports,* and had this system of masking dangerous neutral ports been followed in other parts of the world, the Confederate commerce-destroyers would never have got to sea or harried American shipping; but though the dispatch of a trifling number of ships and men to Europe would have prevented the mischief, the Navy Board concentrated its whole attention upon the blockade at home with iron resolution.

The blockade thus falls roughly into three periods, of which the first extends from the beginning of the naval war to the middle of 1862; during it, the number of blockaders was quite insufficient for the task, and blockade-running was easy. The second period covers two years and a half, from the middle of 1862, when blockade-running grew more difficult,

* The United States ships kept up a *quasi* blockade of Nassau during the years 1861-5. At times they chased and fired at British steamers within the three miles limit. Bulloch, i., 84. British Counter Case, pp. 63—65. Appendix to Brit. Case, vol. v., 224. "No vessel bound to or from Nassau can pass either way without being overhauled and searched." Mate of schooner *Albert* quoted in Scharf, 448.

and specially built craft more and more absorbed the trade. The final period includes the winter of 1864-5, when, with the occupation of all the accessible ports and the seizure of the coast line by the North, blockade-running became a physical impossibility.

Turning now to blockade-runners, we shall find three distinct types of vessels; the first, small sailing vessels, chiefly schooners of light draught; the second, ordinary trading steamers; the third, fast specially constructed steamers.

Naturally enough, the first two types were chiefly employed in the first period of the blockade, though we find sailing vessels clearing in numbers for Confederate ports, as late as June, 1863. The starting point of the blockade-runners was generally a neutral port, near at hand to the Confederate States. The ports most resorted to were four in number, Havana, in Cuba, the Danish island of St. Thomas in the West Indies, Nassau, in the Bahamas, and Bermuda. Havana lies very close to the south of Florida, but that State was at this date sparsely populated, almost devoid of harbours, and destitute of roads and railways. It was then useless to run goods into the southern portion of Florida. Havana's chief trade was with New Orleans, up to its capture in 1862, and with Mobile, the distances to be covered being 570 miles and 590 miles. When these two ports passed to the North, Havana's importance declined. Nassau, again, lay very close to Florida, and till March, 1862, traded largely with St. Augustine, distant 430 miles, but on the capture of that place steamers had to run to Savannah, 500 miles, Charleston, 515 miles, or Wilmington, 570 miles. Bermuda lay closest to Wilmington, a port which had direct railway communication with Richmond, where trade was exceedingly brisk. The distance in this case was 674 miles. To Charleston from Bermuda was 772 miles, to Savannah, 834 miles, and to St. Augustine, 869 miles.

The smaller craft and sailing vessels early in the war could, from their light draught, steal into the unwatched creeks and

inlets which abound on the blockaded coast. We get some indication of the magnitude of the traffic from the fact that between June, 1862, and the same month of 1863, ninety-one sailing vessels cleared from Nassau alone for the Confederacy, of which fifty-five got safely in, whilst forty-five outward bound sailing vessels ran into Nassau.* Sailing vessels would naturally be more exposed to the risk of capture than steamers, moreover, they would not be replaced when lost. We may therefore conclude that double or treble this number cleared in the first period of the blockade for every one in 1863. Of these sailing vessels the greater number were doubtless neutrals, though the South owned a few schooners and had besides seized fifty Northern vessels in Southern ports at the outbreak of the war.

One interesting feature of the first period was the formation of blockade-running companies in the Confederate States. The first of these was the Virginia Volunteer Navy Company, with a paid-up capital of £300,000; the second, the Old Dominion Trading Company. Nor did the Confederate Government disdain to engage in the very profitable business. It owned three or four blockade-runners which made constant trips with heavy goods, and down to August, 1864, had not lost one of them.† Some of the State Governments also owned vessels.

The real interest of blockade-running begins with the appearance of special craft constructed to baulk the growing activity of the Northerners. As trade became more difficult, it also became more profitable, and specialisation in the type of vessel became possible. The runner of 1863-4 was a steamer of 400 to 500 tons, generally propelled by paddles, English built, grey-painted, with only seven or eight feet of freeboard. Forward, there was a turtle-back deck to give

* Scharf, 473.

† *Coquette*, *Owl*, *Bat*, *Stag*, *Deer*, and *Giraffe* (afterwards *R. E. Lee*). In September, 1864, there were ten fast steamers building in England for the Confederate Government.

higher speed in a sea-way; the funnels were generally telescopic, or capable of being lowered; the masts were mere poles with no yards and the lightest possible rigging, and on the foremast was a crow's-nest for the look out. The fuel was anthracite coal, which produces the minimum of smoke, and steam was blown off under water. The lines of these vessels were extraordinarily fine, the proportion of length to beam often being as much as nine to one; and their speed was phenomenal for the times, occasionally reaching seventeen knots. We shall best understand the methods by which the blockade was run if we follow one of these vessels from Nassau to a Confederate port.*

It is mid-day at Nassau; a host of steamers, long and low in the water and of a dull grey, crowd the quays, some loading contraband for the Confederate States, others discharging cotton which they have brought through the Northern squadrons. Away to sea, in the offing, is a large United States' cruiser with steam up, watching the proceedings. She is just outside the British territorial waters, and is waiting eagerly, like the spider, for the accommodating fly to walk into her web. The fly, however, has no such intention; as it grows dark, a boat puts off to the Federal cruiser from the United States' consul who keeps a vigilant eye upon all that goes on, to say that one or more vessels will run out that night. The sun sets, the short tropical twilight is over, and the night is moonless, when two of the craft in harbour stand out to sea. They have good pilots for the Bahama banks; their draught is light, and as they do not make any noise or display any lights they steam off invisible in the darkness, hugging carefully the shores of the British islets. The cruiser may see them; if she does, she dare not touch them in neutral waters, and she cannot, with her far lower speed, dog their movements. They avoid the deeper and more frequented

* The details are drawn from Wilkinson, "Narrative of a Blockade-Runner:" Captain Roberts' (Hobart Pasha) "Never Caught:" and Hobart's "Sketches of My Life."

channels. By daylight the two runners have parted company, one steering for Savannah and the other for Charleston. It is necessary to cross the Gulf stream early enough in the day to establish the ship's position by observations of the sun; the ship is consequently making a line which will carry her to it as quickly as possible. A vigilant look-out is kept, and all signs of a ship in the distance carefully avoided. The cruisers at sea are numerous, and the little vessel is dodging backwards and forwards all the forenoon, now going ahead till a column of smoke is seen in the distance, now sheering, and again after a while resuming her old course. By nightfall she is in the Gulf Stream, and next morning is across it, not more than a hundred and fifty miles from Wilmington. Thither she runs more cautiously, seeing a hostile vessel from time to time, and perhaps seen by it and chased for an hour or two. To be sighted is awkward, as the Northern cruiser which discovers her, at once sends up a dense column of smoke which attracts other vessels. However, her speed enables her to elude them, and not long before dusk the low sandy coast is in sight, with the grassy mound in Fort Fisher, which serves as a land-mark. The offshore squadron has been eluded, but the thirty vessels of the inshore squadron look formidable. The chief of the squadron carries a light, and the other vessels lie with steam up, dark and motionless. The little vessel, hugging the shore with funnels lowered, steals forward, and displays over her side towards the coast a light: it is answered by a very faint light on shore, which tells her that she is seen, and that the gunners in the forts will be ready to support her. The darkness is intense; she runs fast up the coast, nearing safety, when suddenly there looms up out of the darkness a big vessel, and the challenge is made: "What steamer is that? Heave to, or I'll sink you." She makes no answer; rockets are going up, and already a shotted gun has been fired at her, but she bounds forward: in a minute, if she is lucky, she is through the line and steaming boldly for the light, which is now dis-

played on Fort Fisher, whilst the guns of the fort open on the most daring of her pursuers. Off the fort the private signal is made, and she goes in by the help of fresh lights, so placed that she may avoid the torpedoes and obstructions in the channel, and an hour or two later her cargo is being discharged on the Wilmington wharves.

For the outward run the ship is packed with cotton, of which she carries two tiers of bales upon her deck, with a few extra bales on the top again of these for the captain. Careful observations of the blockading vessels have been made: their bearings have been accurately taken, just before sunset, with the prismatic compass: and as they do not alter their positions it is a simple matter to run through the widest of the gaps. The ship is smoked with sulphur, and thoroughly searched for stowaways, who may have managed to squeeze themselves, at the risk of being pressed to death, or suffocated, between the bales. Such stowaways are numerous, but the South cannot spare a man, and besides, spies with information may thus escape. The captains of the runners are not tender with them, unless, indeed, they have money; and if discovered before the ship reaches Nassau they may be turned adrift in an open boat. When the search is over the ship proceeds past the forts, and running at her top speed is quickly through the inner line, whilst before daylight she should be clear of the offshore vessels. If all goes well, after the absence of a week or ten days she is back in Nassau.

Every incident in the above sketch is historical. The greatest care was always taken at the most critical points to avoid all noise, and even cocks were never carried amongst the poultry on board. Captain Wilkinson, of the Confederate States' Navy, who between December, 1862, and November, 1863, ran the blockade twenty-two times in a Clyde-built paddle-steamer, the *Lee*, tells us that the chief danger was upon the open seas, and that the passage through the inshore squadron was not really risky. If the ships were few in number the gaps were wide; if they were numerous they

had to be very careful how they fired, as it was easy in the darkness to hit a friendly vessel. In his opinion a cordon of fast steamers, ten or fifteen miles apart between Nassau and Bermuda, just inside the Gulf Stream, would have been far more effective for stopping the runners than the host of indifferent ships collected off each port.

Occasionally, of course, the runners were trapped, but very occasionally. The fast ships seem to have done much what they liked. If fired upon they ran on, and were very rarely hit. Their chief difficulty was to ascertain their whereabouts, since the Confederates had removed all the lights from the coast. As the trade of blockade-running developed, however, some of the most important lights were re-established, and every runner was required to bring in a barrel of oil to feed them. The blockading squadrons were always on the alert, and always did their best to capture these audacious little vessels, but as they never knew the time or place of their attempts, they did not find it easy. Even the light carried by the chief of the blockaders was used by the runners to steer by, on discovering which the Northerners constantly changed the position of the light. They also carried the wing ships of their squadrons as close in shore as possible, but, even so, runners got past them.

Amongst the captains of the blockade-runners were at least one or two English naval officers, of whom Hobart Pasha has since attained fame. Amongst the sailors and firemen were not a few deserters from British warships on the North American station, attracted by the enormous wages paid. As showing the audacity of the runners, a vessel came up whilst the Northern squadron was bombarding Fort Fisher. She joined the squadron, her presence attracting no notice, and under cover of the smoke presently stole off from her astonished companions. Another vessel crept into Mobile, through Farragut's large squadron, just as it was preparing to move up for the attack upon the forts. One or two ships, hotly pursued, escaped by discharging a dense volume of

smoke, and under cover of it doubled back, passing their enemy unobserved. When a runner was captured, a perfect snowstorm of paper went over her side. All the Confederate despatches which she carried were weighted and thrown overboard, whilst all letters shared the same fate. The prisoners were generally severely treated, and at least once or twice rose upon the prize-crew and recaptured the ship. But it was a big risk—piracy upon the high seas—with the penalty of death, if blood was shed.

Next, let us consider the particulars of the trade. The most obvious requirements of the South were powder, arms, cartridges, clothing, medicines, and salt, whilst steel, iron, copper, zinc, ordnance, chemicals, acids, and boiler iron are stated in a Confederate despatch to have been urgently needed.* It does not follow, however, that what is most needed will be imported. The charge for freight per ton, at Nassau, was £100 in gold, or three times that amount in Confederate currency. It did not pay owners or speculators to load their ships with heavy goods; they chose, rather, light articles which fetched a high price, and could easily be stowed away. Thus Hobart Pasha carried in thousands of stays for the Southern ladies; others brought in silks, fine linens and woollens, laces, spirits, and cutlery. All these commanded a ready sale. So much was this the case, that in 1864 the Confederate Government enacted sumptuary laws, forbidding the importation of luxuries after March 1st of that year; fixing a maximum price for imports of cotton, wool, silk, or flax; limiting the cost of freight; and reserving to the Confederate Government one half of every ship's tonnage, on payment of a sum far below the market rate of freight. These laws aroused a storm of indignation at Nassau and Bermuda, and did much to hamper the trade and bring about its decline. The ships belonging to the various States or to the Confederate Government, however, brought in war supplies. Thus the *Kate*, a regular packet

* Scharf. 474.

running to Nassau, in two trips brought in 1700 kegs of powder, 400 cases of rifles (each containing twenty), 2185 boxes of cartridges, twenty-one of caps, 242 of mess-tins, boots, and artillery harness, 256 bales of blankets, fifteen cases of medicines, four of instruments, ten of tarpaulins, and seven various. So North Carolina alone imported 60,000 pairs of hand-cards, 10,000 scythes, 200 barrels of bluestone (used for the cotton crop), 250,000 pairs of boots and shoes, 50,000 blankets, grey cloth for 250,000 uniforms, 12,000 overcoats, 2000 rifles and 200,000 rounds of ammunition, 100,000lbs. of bacon, 500 sacks of coffee, and £10,000 worth of medicines. These lists of articles, so varied and so necessary, will illustrate the absolute dependence of the South upon the sea, and show how cruelly the blockade must have pressed upon the Confederates. Messrs. Frazer, of Charleston, always allowed the Confederate Government to take what it wanted and at its own price, in depreciated paper; yet that house alone is estimated to have cleared £4,000,000 by the trade.

When a trade of this magnitude had grown up, could the blockade have been very stringent? To answer this question, we must examine the number of vessels clearing for Confederate ports and the rise of prices in the Confederacy. "During the summer and autumn of 1863," says a contemporary letter, "there were runners every night at Charleston, in spite of Dupont's and Dahlgren's pickets," which pickets were stationed at the very entrance to the harbour. Another witness says: "Clyde-built steamers came and went in droves." Between November 1st, and December 6th, 1864, forty-three runners left for Charleston and Wilmington, and almost all got in. In 1865, the *Chicora* entered Charleston, and finding that the Confederates had evacuated it, ran out without let or hindrance. Earlier in the war, between July, 1862, and June, 1863, fifty-seven steamers cleared from Nassau for Confederate ports, fifty-one got in, and forty-four made the double trip. If this be taken as an average, one vessel in four was taken on the double trip, but there is no doubt that the risk of

capture was far lower than this for the fast specially built ships. Hobart Pasha, who made trip after trip with success, puts it at one in six for average vessels, amongst which were five and six knot steamers. Wilkinson, in his moderate thirteen-and-a-half knot paddle steamer, made twenty-two runs. Another Confederate runner, the *Coquette*, came in or out nine times. To make the double trip two or three times would clear the cost of vessel and cargo, leaving a handsome profit. Twenty-four runners of English nationality cleared from the somewhat remote island of St. Thomas, in the twelve months from March, 1862. Between April 18th and 28th, 1862, ten vessels left Havana for Confederate ports, and eleven Nassau, between March 16th and April 9th. In all, from the beginning of the blockade, the Northerners captured or destroyed 1504 vessels, 295 of which were steamers. Many of these were prizes illegally made, since the American prize courts condemned everything. The vast majority were blockade-runners, and of the latter, again, most were slow ships. The risk for the faster runners does not seem to have been great.

Insurance on an ordinary steamer and cargo rose from £750 to £7500, an increase of 900 per cent. This rise may, however, be discounted in some degree by the knowledge that the cargoes carried whilst running the blockade were exceptionally valuable. A captain before the blockade received £30 a month, during it £1000, which again gives us some means of appraising the chance of capture. The expenses of a steamer rose from £4000 a month, to £16,000, whilst the profit was trebled or quintupled. But had the war lasted longer, had the South held out for another year or two and refrained from sumptuary edicts, had it been able to retain a fair number of ports, the arrival of fresh and specially constructed vessels which were being rapidly built in England, would have lowered prices and somewhat changed conditions.

At the same time, the high prices in the Confederacy testify to great difficulty in the trade. Salt at Nassau cost $7·50

(£1. 10*s.*) a ton; it sold at Richmond for $1700. Coffee costing $240 a ton sold for $5550. Hobart Pasha bought his stays for one shilling apiece, and sold them in Charleston for twelve shillings. At Wilmington, towards the close of the war, a pound of tea cost $500. At Richmond a bottle of brandy cost £5. On the other hand, sea-island cotton, the finest procurable, brought twopence to threepence a pound at Charleston, and half-a-crown at Liverpool. All sales and all purchases were made with gold, and not with Confederate paper money. The cotton monopoly was more than anything else that which made blockade-running pay: yet this monopoly, by leading the whole Southern population to fix its attention upon the cultivation of one commodity, which was valueless in the country where it was produced, placed the Confederacy at the mercy of a naval power, and left it without any means of manufacturing when it most wanted them.* A self-dependent state would have suffered comparatively little from the Northern blockade.

We may then say this: that the absence of a navy in the South made the blockade possible, whilst the cotton monopoly made it strategically and politically telling; that the blockaders never succeeded in excluding the fastest type of vessel, but that such vessels were comparatively few in number; that sailing ships were driven from the trade, and that it was risky for slow steamers to engage in it; that blockade running was terminated as a business by the capture of the Confederate coast-line; that the blockade inflicted great privations upon the South, interrupted communications, and prevented the importation of war material; that it shook the financial basis of the South, and greatly assisted—if, indeed, it were not the chief factor—in the reduction of the Secessionists. The testimony of Mr. Scharf, the historian of the Southern navy,

* This, of course, applies with redoubled force to England, which produces manufactured articles, in excess of her home requirements, to purchase food from abroad.

is emphatic. Without the blockade, the South would never have been reduced.

Before we pass to a further analysis of the blockade and its strategical teaching and application, it will be well to consider the various modifications of international law which were introduced in the course of it by the Northern States, and to which the United States' Government may be held to be committed. The chief cases which arose and were decided must be passed in review in a calm and dispassionate spirit, and in the decisions of the Northern Courts, the acts of certain Northern commanders, we shall find some explanation of the feeling of hostility towards President Lincoln's Government, which undoubtedly obtained in England during the war. The two branches of our race are reconciled once more, and a frank statement of facts will not cause bitterness.

The United States' Government may be said to have overstepped all previous precedents in their treatment of the neutral. We may readily grant that it is the latter who benefits by war at the expense of the belligerent, and that the neutral's prosperity must be galling to the state which is fighting for its life. In the past, in 1807, smarting under the Berlin and Milan decrees, we were not too careful of what we did, and our action towards the United States' merchantmen, coupled with the search for deserters in their ships, brought on the lamentable war of 1812. We have now admitted by our tolerance the severest restrictions upon neutral trade, but we have admitted these restrictions only in the case of the United States, which would be our most dangerous competitor in war. It is to our interest—to put the matter bluntly—that such a competitor should be handicapped. As our merchant fleet is the largest in the world, and absolutely essential to us, it is most important that our trade should not be hampered by belligerent cruisers in a war in which we are neutral, and that it should not be wrested from us in a war, in which we are playing an active part, through the greater

security which the neutral flag affords. Our interests are thus antagonistic in peace and in war; and in a war between the United States and any other power, as a neutral we should suffer severely from our admissions in the period under discussion; but as such a war is not probable, on the whole we may be held to have scored. What applied to us will also apply to the United States in our time of trouble.

Matamoras has already been alluded to. On the 21st of February, 1863, the English mail steamer *Peterhoff*, with mails and despatches for the English Consul at that port, was boarded at St. Thomas by officers from the Northern cruiser *Alabama*. The North looked with great jealousy upon the rapid growth of the trade to Matamoras, knowing that the great bulk of it passed across the frontier into Texas. The steamer was carried off to New York and condemned in the prize court there. Her cargo, it appeared, consisted of boots, blankets, horseshoes, hydraulic presses, artillery harness, drugs, chloroform, quinine, morphia, tin, zinc, hoop and bar iron, anvils and bellows. Of all these varied goods the artillery harness alone could be considered contraband. What were the facts? Here was a neutral steamer, bound for a neutral port, a port, moreover, to which constant clearances were granted by the Northern customs. Miles from the theatre of war she was captured and carried off whilst on her regular route. It does not appear that her owners had or could have had the faintest suspicion that there was any contraband of war on board, yet for a time they were mulcted of their ship. In the end, however, the sound sense of the North prevailed, and an indemnity was paid. Meantime the mail bags were opened and examined, in spite of a pledge given by the United States' Government to England that such matter should be at once forwarded to its destination.

This act could not be justified by Lord Stowell's well-known rule of continuous voyages. Here was a neutral ship on a voyage to a neutral port seized by a belligerent on the ground that her cargo was ultimately intended for the enemy. The

British prize law, as stated in the Admiralty manual, is that a ship's destination is to be considered neutral if the port to which she is bound, and every intervening port, is neutral, and if she is in no part of her voyage to aid or assist the enemy's fleet at sea.* By this law, the seizure of the *Peterhoff* cannot be justified. Lord Stowell's rule applied to ships in transit from a neutral to a belligerent port with hostile goods on board, which had been landed at a neutral port and re-shipped.† Free ships did not then make free goods, and it affords no manner of justification for the acts of the Northern cruisers in seizing goods that might at some later period have become contraband, or that might be liable to seizure, if after re-shipment they were conveyed to a hostile port.‡ Lord Stowell held that a ship must be considered as voyaging to that country to which it is actually going for the purpose of delivering its cargo, and that it cannot avoid seizure by putting into a neutral port on its way to a hostile one. The United States' Courts, with violent bias against England, laid down the rule that the ulterior destination of

* Holland. Manual of Naval Prize Law, p. 21, § 68; See also § 72. "The destination of the vessel is conclusive as to the destination of goods on board.

† *e.g.* In 1806 the neutral ship *William* sailed from the neutral port of Marblehead (U.S.A.), for Bilboa, in Spain, with which state England was at war. She was captured and condemned, since before leaving Marblehead she had plied between La Guaira, a South American (and therefore hostile) port and Marblehead. At La Guaira she had taken on board a cargo of sugar, which had been landed at Marblehead and re-shipped with a little neutral cargo, so that she was really carrying hostile goods from one hostile port to another. Even so her seizure would now be illegal, unless she had contraband on board, as a neutral ship is by the Treaty of Paris, free to carry any goods she likes, excepting contraband. As the *William* was seized fifty years before the Treaty of Paris, she was condemned for carrying hostile goods, and it was laid down that the voyage from La Guaira to Bilboa was one and continuous.

‡ "The United States asserted and practised the right to stop any neutral vessel anywhere exceeding three miles from her own coast, to take her to a United States port, and there determine whether there was circumstantial evidence of a purpose . . . . to proceed herself, or to re-ship her cargo to a blockaded port." Bulloch, i., 79. Any British ship in West Indian waters was liable to seizure and detention.

the cargo brought with it the condemnation of the ship and cargo, and that though the ultimate destination of the ship is a neutral port, the mere fact that its cargo may pass overland to hostile territory, justifies its capture.*

If this principle be admitted, as it must be by the United States, in a war between England and France, English cruisers would be justified in making prizes of any American ship bound from any neutral port, to any other neutral port, provided they had arms, machinery, ammunition, explosives, iron, clothing, stores, or provisions on board. If the prize were sailing from New York to New Orleans it could not matter, as it would be possible for the goods to be re-exported and shipped to France. If Germany were at war with France, the cruisers of each power might seize any British ship, on the ground that its cargo *might* go to the opponent at some subsequent date. The position is as illogical as it is ridiculous. Fortunately, it does not follow that because we have admitted certain precedents in our dealings with the United States, we have admitted them in our dealings with the world. Indeed, we could not without ensuring the annihilation of our trade. If we were at fault in the matter of the commerce-destroyers, we are not to blame here. We tolerated proceedings on the part of the North which were almost intolerable.

In the case of the *Bermuda* we find the same straining of law, and in the case of the *Springbok* we find what verges very closely upon deliberate injustice. The *Springbok* was bound from London to Nassau under an unimpeachable charter-party for Nassau. She carried a general cargo in which there was a little contraband. This neutral vessel, steering straight for a neutral port, was on February 3rd, 1863, when about 150 miles from Nassau, boarded by the Northern cruiser *Sonoma*, sent to a Northern port, and condemned on the excuse that her papers were false. There was no basis whatever for this allegation; the ship's draught

* No international lawyer can be found to approve of this doctrine outside America. Practically, it renders void the rule "free ships, free goods."

of water was too great to permit her entering any Southern port, and when the owners asked for time to disprove the assertions of the North, it was refused. Finally, however, the ship was released, but her cargo was condemned. We get the explanation in Judge Nelson's confession made after the war, that the Northern judges knew little of international law and were strongly moved by hatred of England. *

Another important case was the seizure of Messrs. Slidell and Mason, the Confederate envoys to Europe, on board the British mail-steamer *Trent*. Messrs. Slidell and Mason went on board the *Trent* at Havana as ordinary passengers. On November 8th, 1861, in the Bahama Channel, a steamer was waiting for her, and on her approach fired a gun. The *Trent* hoisted British colours and stood on, after which the stranger hoisted United States' colours and fired a shell across her bows. The *Trent* then stopped and was boarded by a boat from the Northern warship, which turned out to be the *San Jacinto*, Captain Wilkes. The *Trent's* captain refused to show his papers or passenger list, but on the Confederate envoys being recognised they were forcibly removed to the Northern warship, and the *Trent* went her way. Messrs. Slidell and Mason, when they reached the *San Jacinto*, found her crew at quarters and every gun bearing on the British ship. They at once drew up an indignant protest against the illegality of their seizure.

Wilkes had thus removed from a British ship on the high seas what he considered contraband. He had not taken possession of the *Trent*, as he should have done, nor sent her into port for proper condemnation, and here was a very grave mistake. No government can allow a foreign naval officer, on the spur of the moment, and in hot blood, to judge its subjects. Every formality must be complied with. And all that had been

* "The truth is that the feeling of the country was deep and strong against England, and the judges, as individual citizens, were no exception to the feeling. Besides, the court was not familiar with the law of blockade." Quoted in Scharf, 453.

gained was that two gentlemen, who were particularly disliked in the North, had fallen into Northern hands. The South could, without difficulty, despatch fresh commissioners. On his arrival at Boston with his prisoners, Wilkes received an extravagant welcome from the Bostonians. Mr. Welles, the Navy Secretary, wrote to him: "Your conduct . . . . has the emphatic approval of this Department," and Congress resolved that a gold medal should be presented to him. This was before England had fitted out a single commerce-destroyer, and wrought a most lamentable change in the amity existing between the two nations.

To say that England rose in a blaze of fury when the news of Wilkes' proceedings, and the way in which they had been received, reached us, is not to exaggerate the impression produced. Palmerston, always a forceful and resolute man, even where it would have been wise to use the gloved hand, at once made preparations for war and demanded an apology. His determination was not changed by a series of extraordinary despatches from Mr. Seward, to the effect that Captain Wilkes had only laid hands upon two treasonable insurgents, and that the same insurgents were contraband of war. Indeed, at this most critical moment, Seward's behaviour was little less than insane: he talked wildly of uniting South and North for a war against England, forgetting the deep stain of dishonour which, in the eyes of posterity, would attach to the name of a man who wrongfully brought about such a disaster. Fortunately, behind Seward was a nobler and a greater man, Lincoln. What do not England and America owe to one who could rise above the passions of the moment to the apprehension of the truth, that justice is a more sacred thing than expediency! Only a strong man could have acted as he did; in the teeth of popular opinion, derided and sneered at in the United States and in England, he gave back the commissioners, and won the undying gratitude of our race. Time brings its revenges; it has condemned Seward and it has vindicated Lincoln.

Our Admiralty manual holds that the conveyance of hostile

despatches makes a neutral ship liable to seizure,* but the persons of ambassadors are sacrosanct, and have always been so. To call Messrs. Slidell and Mason treasonable insurgents, was playing with words. The North did not treat the South as rebels, but as enemies. A compact nation of five millions could not be executed or imprisoned. Moreover, Wilkes had seized the envoys in a most illegal manner. We cannot, therefore, accuse the British Government of showing unfriendliness by its demand for their surrender. Where the mistake was made was perhaps in the peremptoriness of our demand.

As to contraband, the Northern courts divided all goods carried by sea into three classes: 1. Goods that could under no circumstances become contraband. 2. Goods that might under certain circumstances become contraband. 3. Goods which were obviously contraband. In the first class would fall scarcely a single commodity; cotton alone, in outward-bound ships, would not be likely to be imported into the Southern States, and would escape seizure under the remarkable doctrine of ulterior destination. In the second class would fall provisions, stores, clothing, leather, spirits, chemicals, machinery, iron, and any metals, since they might be imported into the South and used for military or naval purposes. In the third class would fall arms, ammunition, and military or naval stores, with medicines. England, in 1793, had held provisions contraband during her blockade of the French coast. The North was therefore justified in this classification, though not in the doctrine of ulterior destination.

At the same time there is much to be said in excuse for the Northern attitude. The blockade-runners had developed and specialised their business. One class of ships brought out to Nassau the cargoes which the small, fast vessels would carry

* § 95. But it expressly excepts vessels conveying despatches between the enemy's home government and the enemy's ambassador, or consul, resident in a neutral state. § 98. The American contentions are dissected by "Historicus." Letters on International Law, pp. 187-198.

into the Southern ports, whilst another and different class did the risky work. In spirit the North did not go far wrong when its cruisers seized vessels voyaging from England to Nassau with the second and third class of goods on board. Before the war Nassau had no trade; it was, therefore, certain that whatever trade it possessed in 1862-5, was due to the blockade, and lay in goods which were ultimately destined for the South. The real difficulty was to know where to draw the line, to ascertain the exact facts about the ulterior destination. It would have been fairly met by the pre-emption of the suspected cargoes, a measure which has the sanction of international law. But the cargoes were not thus pre-empted, and too often the ships which carried them were condemned, upon what reflection shows to have been wholly inadequate evidence. Four hundred and seventy-eight claims for illegal seizures of British vessels were submitted to the Washington Mixed Commission, the English member of which was a criminal judge of no great reputation, who allowed himself to be overruled at every point. A total of £19,200,000 ($96,000,000) was claimed as damages. Of this the Commission allowed only £380,000 ($1,929,819) for 181 ships, a derisory sum, which may be contrasted with the damages awarded in the *Alabama* case. Arbitration, it would seem, is not always certain to secure justice; it is an ideal, and a noble one, but in practice it only too often falls short of our expectations.

Lastly for the tactical and strategical bearing of the blockade.* The English plan of action in war with France is popularly taken to be the blockade of the French military ports, or possibly, of the whole French coast-line. To blockade the French military ports alone, would be a task of the greatest magnitude. A committee of three admirals, appointed to report upon the manœuvres of 1888, held that to make it

* Long. Tactics of Naval Blockade, Journal United Service Institute, xxv. 316. Colomb. Blockades under Existing Conditions, *id.*, xxx., 733. Report of Admirals. Naval Annual, 1889, 415 H. Soley. The Navy in the Civil War. The Blockade and the Cruisers.

possible, the English battleships must be in the proportion of four to the hostile three where there is an anchorage close at hand, and that where there is no convenient anchorage they must be five to three. Further, of cruisers and torpedo craft, we must have two to one, and in the background must be a powerful reserve. It is a well-known fact that we have no such force as is here laid down as essential. When the North blockaded the South, the latter had no navy whatever, and, as has been repeatedly stated, no seamen. In France, we have a state possessing a powerful and well-organised fleet, and a large seafaring population. The Southern coast was sparsely inhabited, though the bulk of the Southern population was found near it.* The French coast is dotted with large towns, and railways give ready access to every point on it from the interior. The North had only to watch a few points; if we are content with a blockade of naval ports only, we shall not have to watch any more, but there are a large number of French harbours, protected by fortifications or shallow water where cruisers and torpedo craft can lie, whence they can issue and harass our commerce and our shores, and these must be observed if we want to sleep in our beds. The Northerners made their blockade efficient by seizing bases on the Southern coast, in the absence of the Southern army in front of Richmond; we shall be confronted by an army on land infinitely more numerous, infinitely better organised than ours, and one which may have no distractions. It is ridiculous for us to imagine that in the teeth of the hosts of men France can muster, our diminutive regiments, even when backed by the strength of our fleet, could capture and occupy similar bases. Sea power is a great thing, but we cannot forget that of itself it has never reduced an enemy to submission. The South was a community with neither manufactures nor the soil and labour for the production of the food it required; the nearest parallel to it is Great Britain, which has manufactures

* Sparsely inhabited, that is to say in contrast with the French coast.

but no food. France, on the other hand, is a self-dependent state, or capable of quickly becoming self-dependent. The South, as we have shown, had no neutral frontier after 1862. France has to north-east, east, and south, land frontiers across which imports could pass without the slightest difficulty.

The Northern blockade was political, having as its primary end the exhaustion of the South. If we ever blockade the French coast, our blockade will be strategical, to stretch the current sense of that term a little.* Our object will be to prevent French cruisers from leaving their ports, French squadrons from taking the sea and so gaining that experience which is above all things necessary to the seaman. Even such a blockade as the North imposed on the South did not, we have seen, prevent the entrance and departure from blockaded ports of swift vessels. In Professor Soley's opinion, had the Northern cruisers fired on the runners and always destroyed them, instead of calling to them to heave to, they would have stopped the traffic. This is a point worth noting. At the present date, the picked steamers of the merchant marine are faster in a sea-way than the picked cruisers of any navy, though they may not be more speedy than warships in smooth water. France possesses very few swift mail steamers or passenger boats, but what she has could probably run in and out without let or hindrance. The most vigilant blockade would not hinder her commerce-destroyers from going to sea, and they would be able to do tenfold the damage which the *Alabama* inflicted, if we did not take measures to guard against their attack, as France possesses coaling stations which the Confederates lacked.

If we blockade strictly, we shall probably want double the 671 ships which the North possessed at the opening of 1865. This would bring our figures to between 1200 and 1500 ships, manned by perhaps 200,000 to 250,000 sailors. Whence are these ships and sailors to come? We have in July, 1895,

* The Federals strove to stop ingress; we shall want to stop egress.

built or building about 600 vessels, counting torpedo-boats, in our war fleet. Our merchant marine includes about 820 vessels steaming over twelve knots, of which twenty-six have done nineteen knots or more. All these would have to be taken. In addition, there are generally eight or ten warships building for foreign governments which could be quickly completed and bought. Our shipbuilding resources are infinite—vastly greater than those of any foreign state. Within a year we could, it is probable, build and send to sea ten ironclads of 6000 or 7000 tons, fifty swift cruisers, and a hundred torpedo-boats of large size, whilst we could maintain this rate of output. In the Crimean war we built a floating battery in three months; in peace we can complete 15,000-ton ironclads in two years. By a system of premiums, a relaxation of the conditions of inspection, we could more than double the rapidity of construction. We do no violence to probabilities if we suppose that within one year from the declaration of war, 150 specially built vessels will have been added, and as many more from the merchant marine. The unfortunate thing is that we have no one to man this host of vessels; that we dispose of no reserve. Improvised seamen cannot be trusted against trained and drilled sailors, any more than improvised warships against ironclads. At the present moment England's supreme need is a reserve. Yet, even with a large and effective reserve, to blockade the whole French coast-line would be a practical impossibility. As in the past, we shall have to rest satisfied with watching closely the military ports, and to do this, alone, we shall want a greater force of battleships than we possess. Light ships and cruisers will observe the more important non-military harbours.

We have now to consider the tactical aspects of a blockade, such as we should maintain, supposing that we had the force of ships which our admirals declare necessary. In the American Civil War torpedo warfare was in its earliest infancy, and had scarcely advanced beyond the stage of fixed

mines. Yet we find that Confederates did cause their opponents serious annoyance. In particular, we may call to mind the efforts of the submersible "Davids" before Charleston, where the *Housatonic* was sunk. In a war in which English fleets were blockading French, one of two conditions must obtain. Either there has been a naval battle, in which the English have been victorious; or there has not, but the French, recognising their inferiority, decide to remain in their ports. In the first case, the blockaders' task will have been simplified by the destruction or disablement of the heavier ships on either side, and the effective vessels shut in will be the lighter class of cruiser and torpedo craft. To watch a port containing vessels of this description will be wanted: 1. Fast cruisers offshore, or at a distance, under steam. 2. An inshore squadron of torpedo gun-boats or destroyers, of high speed, backed by such improvised cruisers as the *Seaford*, carrying six or eight 12-pounder quick-firers. This squadron will not be numerous, but will be sufficient to hold all the entrances to the blockaded port under thorough observation. Its vessels will approach within about 2000 yards of the nearest forts on dark nights, and about 2500 on brighter nights, steaming out of range if attacked by quick-firers.* Full signals will be arranged between the inshore and offshore squadrons, the inshore vessels scouting, and the offshore fighting. No ordinary torpedo-boats should be employed, so that any boat approaching the large ships may be known for an enemy and at once fired on. If the second condition obtains, and battleships are blockaded, there must also be battleships amongst the blockaders. In that case there will be three squadrons: 1. The battleships cruising together by day off the port; at night steaming to sea and detaching a group of destroyers, which will carry special lights, to cover them at a distance of about one mile. Nearer than this to the battleships of their own side they should not go. If a

* The value of torpedo craft for this work was proved in the Chilian blockade of Callao, p. 333.

hostile torpedo squadron is sighted, they will at once signal and attack it, but will carefully keep their distance from friends. 2. The cruisers between the battleships and the shore at night; by day, further out. 3. The inshore squadron as before. The strain upon officers and men will be almost inconceivable in its severity. It is scarcely possible to suppose that they will get much sleep at the opening of the campaign, and therefore it seems to be absolutely necessary—if we are going to blockade—to have not five ships to three, but eight to three, that two squadrons may be formed, the blockading and the reserve, which will relieve one another every few days. It is probable that otherwise our officers and men will be quickly invalided, or lose their nerve with their health. As the war draws on we shall destroy or disable some of the hostile boats, and the strain will diminish, but at the outset it will be terrible.

Probably we shall not blockade till late in the war, because we lack the strength.* We shall have to observe the hostile ports with isolated cruisers, and keep our fighting squadrons in our ports. We shall thus be able to guard against serious strategical movements and to render invasion impossible, so long as there are overwhelming fleets behind the observing squadron. We may, however, have to reckon upon the bombardment of our open towns by stray cruisers, though it is doubtful whether this will be so terrible a thing as is sometimes supposed.† We shall undoubtedly sacrifice some portion of our trade, though even with a close blockade that risk would not disappear, as fast isolated ships could to the end of the Civil

* Ports might be temporarily closed by sowing the entrance, where it is narrow, with mines at night.

† Clarke. Fortification, 263. "Naval bombardment is a newspaper bugbear. Threats to bombard may very possibly form a feature of future wars, but exasperation is the only probable result of carrying them out." On the other hand see MM. Montéchant and Z. Stratégie Navale, 18-25. "The destructive power of explosives, the swiftness of attacks, have given war at sea a sudden and secret character, which permits of new combinations, new methods of causing ruin, which disregard all laws of nations."

War run in and out of the Southern harbours. It would be best, no doubt, to be strong enough to be able to keep our ships close up to the hostile ports, as we did off Brest in the French War. But what the North found difficult to accomplish, with ports close at hand on the blockaded coast, will be infinitely harder for us, with bases leagues, sometimes hundreds of leagues away. To follow the North's example, and win bases near at hand, we need a very strong army behind our fleet.*

* Except where there are islands conveniently placed. Cherbourg is near Alderney and the Channel Isles, but the latter would be dangerous waters for heavy ships to cruise in, by night especially. Off Brest we should have the same difficulty in finding a base, as the French coast defences in this direction are carefully planned.

CHAPTER X.

The Battle of Lissa.

July 20th, 1866.

At the end of April, 1866, Austria began to mobilize her army and prepare her fleet for action. She was threatened at once in the north and the south—in the north by the powerful Prussian Kingdom, with its matchless army; in the south by the new state of Italy. An alliance bound these two powers together, and the end of that alliance, from an Italian point of view, was the recovery of Venice.

War was not declared by Italy till June 20th, but six weeks before that date she had commenced her naval preparations. Admiral Count Carlo Pellion di Persano was given command of the Italian fleet, though against his own wishes. He was in his sixtieth year, and had spent his life in the Sardinian navy; in the Austro-Sardinian war of 1848, he had served not without honour; in the Crimean war he had won praise from Admiral Bruat at the bombardment of Odessa; in 1859, he had blockaded the Austrian coast: in 1860, he had co-operated with Garibaldi on the Sicilian coast, and in September of that year, he had reduced Ancona and received the sword of General Lamoricière. For his services on this occasion, he was promoted Vice-Admiral, and on the re-organisation of the Italian navy, was made Minister of Marine in the Rattazzi cabinet, which office he held from March to December, 1862. Before he retired from office, he was promoted, or promoted himself, to the rank of Admiral. In 1865, he became a Senator. His personal character was not inspiring, nor were

his war services very remarkable, yet he was regarded in Italy as the only Italian Admiral, the one man who was qualified to lead the Italian fleet in war. He was to disappoint most grievously the high expectations which were entertained of him, and to prove how far wrong popular judgment of an untried man may go.

Italy had devoted great attention to naval matters. Her expenditure on ships had been very large since 1860, amounting to £12,000,000, and the Italian fleet made a noble show on paper. The two finest ships, the *Re d'Italia* and the *Re di Portogallo* had cost £325,000 each, and had been built in the United States at Webb's Yard, New York. They were large vessels of 5700 tons* with 7 inches of armour, carrying a most formidable armament; the first, two 150-pounders, with thirty 6-inch guns and four smooth-bores; the second, two 300-pounders, with twenty-six 6-inch guns. But they were built of green wood, and were weak in their scantling, whilst a great deal of filth had, during their construction, been thrown down inside their frames, which made them unendurably foul. They were not good sea-boats, lacking buoyancy and manœuvring power; moreover, their rudders were exposed, a fault which had grave results at Lissa. Next to them in power came the *Affondatore*, a turret-ram of 4070 tons, built at Milwall on the Thames. She carried 5-inch armour, and two 300-pounder Armstrong guns placed in two turrets. Her enormous ram projecting twenty-six feet, and her powerful armament led Italians to consider her as their best ship, whilst Persano in particular, put almost childish faith in her.† Yet she too was a bad sea-boat, plunging very heavily owing to the great weight of turret and belt forward, and, through her length, did not steer well. The two small rams *Terribile* and *Formidabile*, of 2700 tons, had been built in France, and were handy vessels, carrying like all the other Italian ships, except those above mentioned, 4½-inch plating, and

* Old measurement, in which all tonnages in this chapter are expressed.

† Amico, p. 98—9.

6-inch rifles as their primary armament. The *Maria Pia*, *Castelfidardo*, *Ancona*, *San Martino* and *Principe Carignano* were broadside ironclads of over 4000 tons, with an end-to-end belt of armour on the water-line. Two armoured gun-boats, the *Palestro* and the *Varese*, concluded the tale of ironclads; they carried each two Armstrong 150-pounders with some smaller guns. Behind these twelve ships, which formed the first line of the Italian fleet, were numerous wooden frigates and corvettes, steam-propelled, but of the older type which armour had rendered obsolete. Nine such vessels were present at Lissa, carrying from fifty-four to twenty guns.*

Of such a fleet Italy might well feel proud. As far as ships and guns went it looked equal in quality, if not superior, to the fleets of France, England, or the United States, at that date the three leading naval powers of the world. The Italians had shewn independence in adopting models which were then considered excellent, and the *Affondatore* might be said to embody the structural teaching of the American Civil War. But though all seemed good on the surface, it is not enough to spend millions on a fleet; they must be well and judiciously spent. The Italians pinned their faith to material force, they neglected moral strength. They had forgotten the fact that it is not ships and guns which win battles, that the best of ships are useless without highly trained captains, and the best of guns without skilled gunners. They kept large squadrons in commission but they did not train their men for war, by constant practice in gunnery and steam tactics. The efficiency of a fleet depends primarily upon the efficiency of the seamen and officers who have to work it, and the inferior quality of the Italian *personnel* rendered vain the superiority of their *matériel*.

The Italians have always been a seafaring people. Their coast-line is long; they have considerable fisheries; and the history of Venice and Genoa is the history of naval states.

* For full details of the Italian fleet, see Table VII.

Their past was not ignoble, and they were fired by a great idea. The freedom of Italy appealed strongly to every Italian; they had fought and suffered in 1848 and 1859 for that worthy cause, but in 1866 it was to be won by them ignobly and ingloriously, through the aid of their ally. History teaches that men fight best when they have a good cause behind them; here there was a good cause, which did not bring its devotees success. Incapable generals, irresolute admirals, untrained officers, undisciplined sailors, explain their defeat. Nelson had won the victories which made England great, in part at least by the harmony, which he inspired amongst the "band of brothers" who served him. But here was great friction and jealousy between admiral and admiral, between captain and captain. There was none of that prompt and unquestioning obedience, which is the preliminary of successful war. Neither faithfulness nor deference marked the relation of officers to one another, and so notoriously was this the case, that an Italian writer has naïvely asserted that in all navies this state of things obtains, and more that it is an inseparable effect of life at sea.* The gunners who were collected to fight the ships were mostly raw recruits, who coming from an eager and excitable stock stood greatly in want of discipline. Trained engineers were conspicuous by their absence, as the Englishmen who had hitherto attended to the machinery did not choose to fight; worst of all, the officers in the inferior grades were ignorant and inexperienced. Many of the ships wanted heavy rifled guns, and the engines in numerous cases had been badly kept and were not in good condition.

Such was the fleet of which Persano took command. An able and determined man might, even so, have done much, but Persano was neither able nor determined. On May 16th he went to Taranto, and was so much dispirited by what he saw that he wrote on the 22nd, "I fear we shall go down." His

* La Guerra in Italia, p, 344. Laughton, 167.

behaviour has been well described in the act of accusation.* "Persano's acts, in one continued series, exhibit a true repugnance to taking any decisive step. Now he talks of waiting for steel shot; now he wants to transfer guns from one ship to another; now it is gun-carriages which are lacking; now ammunition for his Armstrong guns; now swift scouts; now store-ships; now doctors; now nurses; now engineers; now lieutenants; now speaking-tubes; now pilots; now marines; and when he has the fleet at last *in perfect order,* for such was the opinion of all, and when he might with success have attacked the Austrians, he runs back to port to wait for the *Affondatore*." † The words which are italicised are certainly an exaggeration, but on the whole this severe indictment is true. Amidst incapacity and mismanagement, despairing of success, but compelled by public opinion to enterprises which his judgment considered desperate, he lacked the ability to organise an efficient fleet, and the moral courage to refuse to lead forth to disaster an inefficient one. Characteristic of the man is his correspondence, and of this a fair specimen in its querulousness is the following letter to Angioletti.‡ "It is my duty to submit to your Excellency that the ships which join the fleet from day to day are incompletely manned, especially in regard to their petty officers,§ and, which is of more consequence, are without trained gunners, who are now more than ever necessary, on account of the greater number of heavy rifled guns, which require long and careful drill. This fleet is not ready for war. Help me, I earnestly entreat you." ‖

On June 25th he brought such of his ships as were ready from Taranto to Ancona, and anchored there. The *Affonda-*

* When he was impeached before the Senate, v., p. 250.

† Amico, p. 102.

‡ Minister of Marine in the Ricasoli Cabinet, May 21st—June 20th, 1866. On June 20th, Depretis succeeded him.

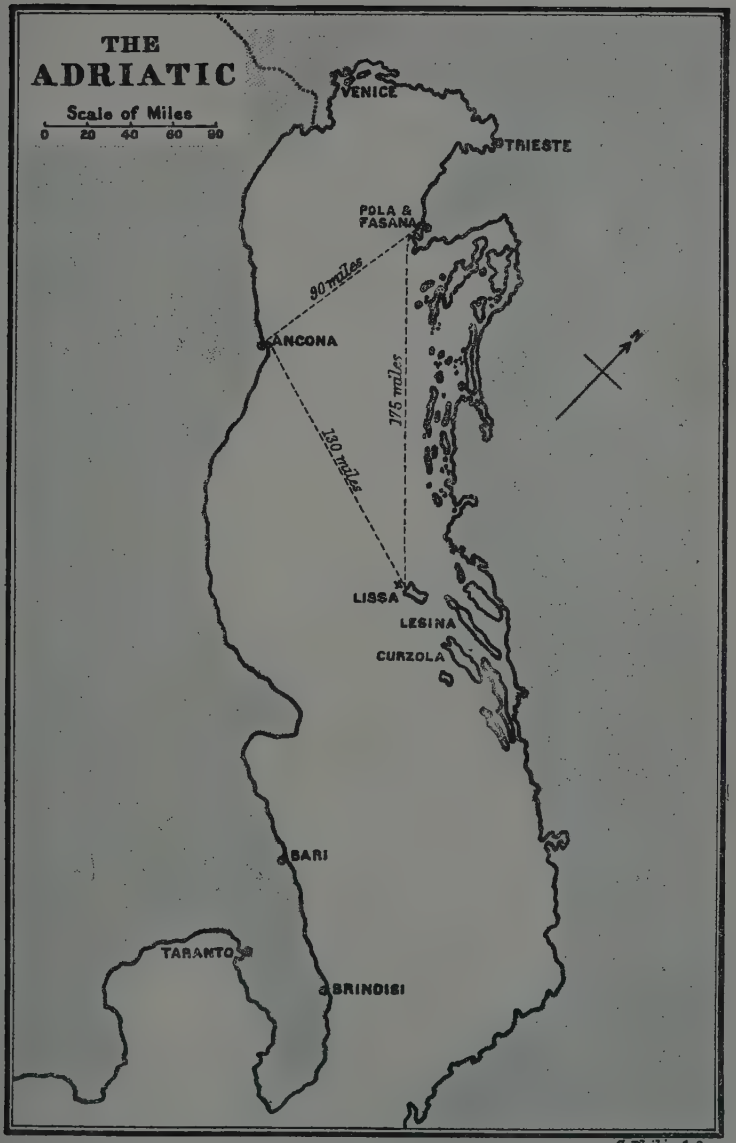
§ The *Castelfidardo* and *Ancona,* he complains in a letter to the Minister, wanted two-thirds of their complement of petty officers. Persano, 107.

‖ Persano, p. 86.

tore, which fills his despatches to the Italian Minister of Marine, was on her way from Gibraltar, and till she came he felt that he could do nothing. He had a powerful squadron, but it was not powerful enough to his mind, though he knew that the Austrian fleet was far inferior in every respect. His first act on his arrival at Ancona was to telegraph to the Minister of Marine for four fast merchant steamers to serve as scouts, for five pontoons for use at Ancona, for doctors, for twelve powerful glasses, for as many guns as possible, and for two or three gutta-percha voice-pipes. Many of these requests were at once complied with, though the guns had not all arrived by July 7th.* Meantime he was exercising his stokers and gunners, when on the morning of June 27th, the despatch-boat *Esploratore* steamed into port with the news that the Austrians were in sight. The *Re d'Italia* had the coal in her bunkers on fire; the *Re di Portogallo* could not start her engines; the *Terribile* had only half her guns; the *Ancona* was unready for battle; the *Varese* and *Palestro* had engineers who could not manage their engines; the *Carignano* had no heavy guns. The rest of the fleet was coaling confusedly. However, the *San Martino, Maria Pia, Castelfidardo*, and *Carignano*, the latter ship in spite of her missing battery, made ready and formed up in some sort of order. Outside the port lay Tegetthof, to whose doings we must recur later, with six most indifferent ironclads and one old frigate. For three hours he steamed in line abreast slowly backwards and forwards, cleared for action, and waiting for the infinitely finer ships of the Italians to assail him. He waited in vain. Though Persano had described his intention as being "to entice the hostile fleet to offer battle, and to annihilate it if it makes the attempt,"† he failed to lead out his ships and annihilate the enemy now they were at hand. Instead, he went on board

* The ammunition for the Armstrongs had not arrived on the 13th of July. The shells only reached the fleet on the 14th. Persano, 117.

† Amico, p. 89.



G. Philip & Son.

Map XI.

the *Esploratore,* no fighting ship, ordered his four ironclads* to form line ahead, and after wasting much time, whilst the Austrians were waiting boldly for him in the offing, actually steamed out of harbour in the opposite direction, only to return an hour or two later, after holding a council of war on board the *Carignano* to decide whether he should attack. But in the meantime Tegetthof had retired. It was an ill beginning for the Italian fleet, and there were murmurs against Persano, both amongst the sailors and on shore.

On July 2nd, Persano telegraphed to the minister, "Anxious to fight; I entreat you to send at once the *Affondatore* and gunners." Once more his requests were granted, and the minister besought him "to do something," to sweep the Austrians out of the Adriatic like a second Tromp, for such was the talk of the Milan *cafés.* On the 5th he was again asking for the *Affondatore,* but he went on to say, "Hope we shall not make peace without our fighting." For Custozza had already blasted the hope of Italy on land, and the whole nation was turning its eyes to the sea, where that disgrace might yet be retrieved. On the 7th, our dilatory admiral telegraphed, "Want two or three more days." †

But his ceaseless complaints and unending procrastination at last roused Depretis to a stinging despatch. "Would you tell the people," he wrote, "the people who in their mad vanity believe their sailors the best in the world—that in spite of the twelve millions we have added to their debt, the squadron that we have collected is one incapable of facing the enemy? We should be stoned. And who has ever heard the Austrian fleet mentioned except with contempt?" ‡ "Do something," was the cry, "fight the Austrians, land on their coast, attack Lissa, only move." An impatient minister, a clamorous populace, an irresolute admiral, were between them preparing defeat.

* Six others joined him, one by one, outside the harbour.

† Amico, p. 100.

‡ Rev. des Deux Mondes, lxvi., 203.

On the 7th, this unfortunate commander received imperative orders to go out of harbour. "Go out of harbour," ran the telegram, "with your fleet; leave behind any of the ships which want guns. Act according to instructions."* On the 8th, at last, the fleet did put to sea, though Persano was still without his longed-for *Affondatore*. The admiral led his ships into the midst of the Adriatic, and there they steamed solemnly to and fro at wide intervals. There was no attempt to discover the whereabouts of the Austrians, to entice them out, or to drill the officers and sailors. The admiral had no ideas and no plans, he neither consulted his officers nor instructed them, there were no conferences, no debates on the course to be followed, only absurd and useless evolutions. Deputy Boggio, a second Jean Bon St. André, was on board the admiral's flagship, as a volunteer member of his staff, and he was the only man in the fleet who had still any confidence in Persano left.

On the 13th the fleet came back to Ancona—came back having done nothing and having attempted nothing—with officers quarrelling and insubordinate, and sailors dispirited. Persano had his usual excuse. He wanted to wait for the *Affondatore*; when she came he would do wonders. But there was something more than discontent with him abroad in the country.

The impressionable and excitable Italians were wild with rage at what they secretly recognised to be disgrace. At last there came peremptory orders from the King and ministry for him to go to sea, "To attempt against the hostile fortresses or fleet what operations may be thought convenient to obtain a success."† The unhappy man was urged by Depretis' reproaches to attack Lissa: having no judgment or will of his own, having neither information nor even maps, he resolved to follow this suggestion. He would attack Lissa and capture it.

* Rendiconti, 43. † Rendiconti, p. 47.

Lissa is a rugged, well-wooded islet in the Adriatic, distant thirty miles from the Dalmatian mainland. It is nine miles long and four broad, and contained at this date 4200 inhabitants. It was a position of some strategic importance, and as such it had been fortified by the Austrians, having nine permanent works and eleven batteries, most of which were placed at a considerable height above the sea, mounting altogether eighty-eight guns. Of these, the heaviest were 24-pounder rifles, and 48-pounder and 60-pounder mortars and smooth-bores. The garrison was 1883 men strong, of Marines and Coast Defence Artillery. Off this island a sharp engagement had been fought in 1811 between Hoste, the English commander, and a Franco-Italian squadron, when Hoste made the famous signal "Remember Nelson." Had Persano remembered the great English admiral, who with battered ships could hold fast before Toulon, whose fiery enthusiasm could inspire the most irresolute and half-hearted, whose one yearning was to come to blows with his enemy, but who had a mind and knew it, surely he must have risen above his present depth of weakness and indecision.

Persano on July 16th reluctantly gave orders to his fleet to put to sea. He had with him all the Italian ironclads already mentioned, with the exception of the *Affondatore*, and as she was on her way, he detached the despatch-boat *Flavio Gioja* to order her to meet him off Lissa. His fleet comprised Rear-Admiral Vacca's division, consisting of the *Carignano*, which carried Vacca's flag, the *Castelfidardo* and *Ancona*; his own squadron, in which were the *Re d'Italia*, his flagship, the *Palestro* and *San Martino*; Captain Ribotti's division, in which were the *Re di Portogallo, Varese*, and *Maria Pia*; the *Terribile* and *Formidabile*; Vice-Admiral Albini's squadron of four frigates and one corvette; five despatch-boats; three gun-boats; a hospital-ship; and two transports.* But he felt sure that his landing force was altogether insufficient, since

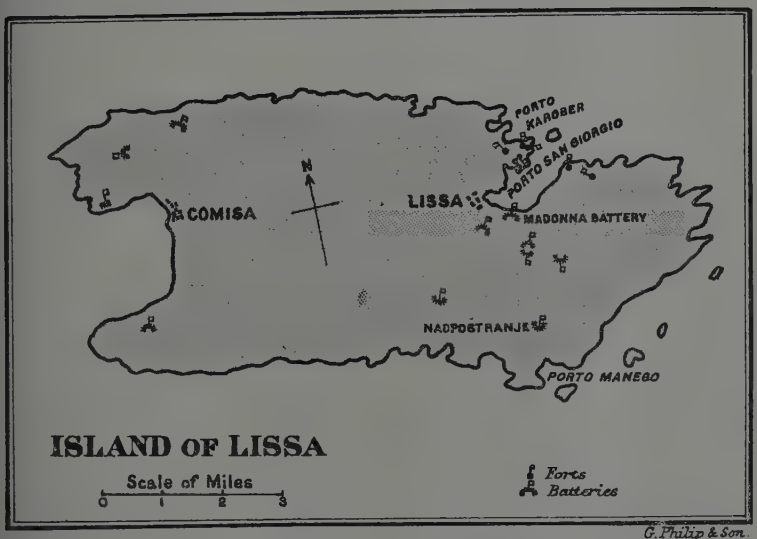
* Details in Table VII.

he had but 500 marines and 1000 soldiers.* He had been promised an extra battalion of marines, two companies of engineers, and 1500 soldiers, who had not as yet arrived; but after his exhibition of procrastination and timidity he dared not wait longer. He and his chief of the staff, Captain d'Amico, had not the faintest idea of the strength of the place which they were going to attack. They did not know what the works were like, whether ships could assail them with any chance of success, or what guns were mounted. They never gave any consideration to the question whether it was safe or advisable to expose their ironclads to the risk of injury, and their soldiers and marines to the risk of capture, whilst Tegetthof's squadron was yet at large, and they took no steps to mask the Austrian fleet.†

At three in the afternoon the Italian fleet at last left Ancona. The *Messagiere* was sent on in advance to reconnoitre Lissa, a task which her captain accomplished under the English flag. She rejoined Persano with the news that Porto San Giorgio, Manego and Comisa were defended by strong works, but that, though they were placed high, they were within reach of the ships' guns. It was now the 17th, and Persano made his dispositions, intending to attack at dawn on the 18th. Vacca, with his three ironclads and the *Guiscardo*, was to bombard Comisa; Albini, with the unarmoured ships, was to attack Porto Manego; Commander Sandri, with the gunboats, was to cut the telegraph cable which ran to the neighbouring island of Lesina; the *Esploratore* was ordered to keep a look-out to the north, and the *Stella d'Italia* to the west; whilst the rest of the fleet, under Persano, assailed Porto San Giorgio, on which stands the town of Lissa. Thus if the Italian fleet were to be suddenly attacked, as it well might be,

* He had asked for a landing force of 5000 men. Persano, 62.

† The responsibility for the strategy of this campaign rests nearly as much upon Depretis as upon Persano. Albini was against the attack on Lissa and Vacca for it. Persano in his book (p. 131) asserts that Depretis urged it upon him.


PORTO KAROBER
PORTO SAN GIORGIO
N
COMISA
LISSA
MADONNA BATTERY
NADPOSTRANJE
PORTO MANEGO
ISLAND OF LISSA
Scale of Miles
0 1 2 3
Forts
Batteries
G. Philip & Son.

MAP XII.

it would be found divided into four detachments, and might be destroyed in detail. So much time was lost in giving orders, which should have been given before the fleet left Ancona, that it was after ten in the morning before the ships were in their positions, and the Austrians had consequently had time to telegraph to Tegetthof full details of the arrival of the Italians.

At eleven the firing began. The *Garibaldi* had just come up with a certain number of men, and news that more were following. By three o'clock two magazines in the forts at the entrance to San Giorgio harbour had exploded, and many of the works were silenced. But the Italian expenditure of ammunition had been heavy; the *Re d'Italia* alone firing 1300 rounds. Boggio was on deck throughout—exposed, as he writes, "to a storm of projectiles" in the midst of "an infernal uproar." At this hour arrived the *Guiscardo* to inform Persano that Vacca* could do nothing as the forts were placed so high that his guns could not reach them. He was, thereupon, ordered to leave one ship before Comisa that the garrison might be kept busy, and to take the others round to Albini's support. But a little later Albini himself appeared on the scene, fresh from Porto Manego, with his wooden ships. He had made a very feeble attempt on Porto Manego, but as three shells had pierced his flagship, killing two men and wounding three, had jumped to the conclusion that his wooden ships could do nothing against the forts, and with a rare mixture of pusillanimity and disobedience hauled off. He had sent word to Persano that even an ironclad would be unable to reduce the forts. Albini's failure dumbfounded Persano, who had been told by his staff-captain, d'Amico, that the attack on Manego was quite easy. However, he accepted Albini's statements, and ordered him to disembark his troops

* According to the Austrian official account, Vacca was supported by Ribotti with the *Portogallo, Maria Pia, Varese* and *Terribile*. In the text the Italian version has been followed. If these additional ships were off Comisa they were only there for a very short time, and the main attack was delivered by Vacca's squadron.

at Porto Karober, near San Giorgio, an order which Albini promptly disobeyed by doing nothing.*

Inside Porto San Giorgio, and at the head of the harbour, was a strong work called the Madonna Battery, which had not yet been silenced. and on the Telegraph Tower was a second battery as yet untouched. Vacca, with the *Castelfidardo* and *San Martino* steamed to San Giorgio, finding Albini gone from Porto Manego, and was now ordered to enter the harbour. It was however, already half-past six, the Italian gunners were thoroughly exhausted, and the Austrians had slackened their fire. Persano, therefore, resolved to draw off and renew his attack next day. Characteristically, he sent off the *Fieramosca* at nightfall, to beg the dispatch of fresh reinforcements from Ancona. At ten o'clock the gunboats returned from Lesina with the news that the cables had been cut, but not before Tegetthoff had received news of the Italian fleet from Lissa and sent off a reply: "Hold out till the fleet can come to you." To most commanders this would have been a warning that the enemy was to be expected. Persano had made up his mind that Tegetthof dared not face him, and that this was only a ruse to alarm him. He made his dispositions for the morrow as if there were no Austrian fleet in being.

All the night the Austrians worked at their batteries, remounting guns which had been put out of action, and re-constructing embrasures. Persano's orders were that the *Terribile* and *Varese* were to attack Comisa, Albini to cover the disembarkation of the troops, the *Formidabile* to enter the harbour of San Giorgio supported by Vacca's three ships, whilst Persano's own squadron assailed the outer forts. At daybreak, the much-looked for *Affondatore* arrived with the frigates *Carlo Alberto* and *Principe Umberto*, conveying a

* If Albini, on finding that his ships could not attack Manego with any prospect of success, had taken the trouble to land detachments from his vessels, the work which only mounted two 12-pounder rifles and four 18-pounder smooth-bores, and which was very weakly garrisoned, must have been carried. This would have been a most serious embarrassment to the Austrian defenders of Porto San Giorgio. Staff History, v. 46-7.

body of troops, which raised the Italian landing force to 2600 men, or 800 more than the Austrian garrison; a force sufficient to have done much if it had been handled with intelligence, but intelligence was the last thing to expect from the Italian commanders. Persano's plans were followed; about three o'clock, the *Formidabile* entered the harbour under a very heavy fire, and engaged the Madonna battery at a range of only 300 yards. Vacca followed, but in the confined space, found that he could not manœuvre his ships or bring their guns to bear, since the Madonna work was completely covered by the *Formidabile*. So he went in and came out again, doing nothing. At dusk, the *Formidabile* withdrew, having achieved little, though Captain Saint Bon, an exception to the general run of Italian commanders, had fought her with skill, spirit, and courage. He came on board the flagship to make his report, and a melancholy report it was. More than fifty of the *Formidabile's* crew were *hors de combat*; her funnel, and her upper works outside her armour, were riddled; rigging and bulwarks were cut to bits; and six port-lids had been shot away. Persano's fleet had lost one of its best ships, for the crew were so worn and exhausted that nothing more could be expected from them, even if the ship had been herself in fighting trim. A single shell bursting on one of the port sills, had filled her battery with smoke, so that the gunners were nearly choked. Her armour had not, however, been perforated. She retired to the west, intending to transfer her wounded to the hospital ship.*

Meantime, Albini, a subordinate, who in his own sphere showed as much incapacity as Persano, and coupled his incapacity with disobedience and contempt for his commander,† had again done nothing. All the day he lay off Porto Karober, pretending that the surf prevented him from disembarking the expeditionary force. According to Persano, the sea was calm, and there was not the faintest oscillation on board the

* Her loss was three killed and fifty-five wounded. Staff History, p. 58.

† Rendiconti, p. 121.

ships a few miles away, cannonading Lissa.* Moreover, if there had been, Port Karober was sheltered. At night, however, there was a violent wind with a strong surf, so it was no longer possible, at the eleventh hour, to land the men. A council of war was held on board the flagship, at which Vacca strongly urged the renewal of the attack with day. Hereabouts, Persano seems to have discovered that the Austrian fleet was still intact. What if Tegetthoff appears? he asked. We will sink him with our rams, was the brave reply of the Italian captains. Persano thereupon decided once more to assail the island, but to do it "carefully and warily." He had need of caution and wariness. The Italians had lost sixteen killed and 114 wounded, and had effected absolutely nothing. But this caution and wariness were oddly displayed in dividing the Italian fleet. Albini was once more enjoined to land his men; Vacca was to cruise off the north of the island; the *Terribile* and *Varese* were again to assail Comisa, whilst Persano threw useless shells at the San Giorgio batteries. There was no plan of action formed against the event of the Austrians appearing. Neither captains nor admirals considered how they were going to use the rams in which they put such trust. Not a man knew what was to be done; everything was to be left to chance at the last minute.† Even Byng, whose incapacity when face to face with the enemy was punished with death, never sank so low as this. He was guilty of want of judgment, Persano of criminal negligence.

The morning of July 20th, a black day for Italy, rose dull and stormy. The *Piemonte* arrived with a fresh battalion of troops, and Albini at last got to work. Before eight o'clock

* Staff History, p. 55.

† "Il (Persano) n'a jamais voulu discuter un plan de bataille, et il ne s'est jamais entretenu, ni avec les commandants en sous-ordre des escadres, ni avec personne de l'éventualité d'un engagement. Il n'a jamais manifesté ses idées, ni les manœuvres qu'il entendait faire, ni prescrit aucun ordre de bataille . . . ." Vacca, quoted in Persano, 186,

he had disembarked a sumptuous iron lighter, which he left behind him as a trophy for the Austrians, and some troops. The ironclads were, in no order at all, scattered round the coast, when a thunderbolt fell on that unhappy and disorganised force. The *Esploratore* suddenly came racing into view, signalling, "Suspected vessels in sight." A moment later, before precise information could be obtained, a heavy squall hid her from view. And in what plight was Persano's fleet? The *Re d'Italia*, *Palestro*, *San Martino*, *Re di Portogallo*, and *Maria Pia*, were bombarding San Giorgio. The *Carignano*, *Castelfidardo*, and *Ancona*, were three miles away to the north-east of the island. The *Terribile* and *Varese* were nine miles off to the west of the island; the *Formidabile* a league to the west, transhipping her wounded, whilst the swell was so great that the water washed in through her open ports; Albini's squadron, encumbered with troops, boats, and stores, was in the midst of the process of disembarkation. The most terrible confusion prevailed, as well it might, for the caution and wariness of Persano had been only words. And so this fleet with its unready admiral, its incompetent officers, and its brave but untrained seamen, taken at the utmost disadvantage, tardily prepared to meet the onset of an opponent who had plans, who knew his own mind, and who was resolved to prove to the Italians that the Austrian fleet was something more than an object of contempt.

At the outbreak of the war, Rear-Admiral Baron Wilhelm von Tegetthof had been appointed to the command of the Austrian fleet.* Born at Marburg in 1827, he was now in his forty-eighth year, after years of distinguished service in the Austrian navy. He it was, who, commanding the Austro-Prussian squadron in the North Sea, had in 1864 encountered a superior Danish force and come off, after a dogged fight,

* Staff History, p. 87-90.

without having much the worst.* He was a man of courage and decision, who knew how to inspire his subordinates with his own fiery spirit, and he stands forth in the long period from Trafalgar, as the one war-commander who can be matched with Farragut. He found the Austrian navy in evil plight. The hapless Archduke Maximilian, who met his fate in Mexico, had devoted great attention to it, and founded an arsenal at Pola, but he had been gone some years, and since the alliance between Austria and Prussia in 1864, the former power had neglected its fleet, believing that an age of peace was at hand. There were seven ironclads launched or ready, but of these, two, the *Ferdinand Maximilian* and *Habsburg*, lacked their heavy Krupp guns, which had been ordered and paid for, but had been detained in Germany, owing to the hostilities between Prussia and Austria. Their hulls and engines were complete, but their interior fittings were in a very backward state.† The *Don Juan of Austria* wanted a great part of her armour forward. The *Novara*, a frigate of the old type, had been set on fire on the stocks, by an

* The Danes were blockading Hamburg, when Tegetthof, with the Austrian frigates *Schwarzenburg* (48 guns), *Radetzky* (31), and the three Prussian gunboats *Blitz*, *Basilisk*, and *Adler* left the Texel. About one o'clock on the afternoon of May 9th, 1864, he was in the neighbourhood of Heligoland, when three ships were sighted. They were the Danish frigates *Nils Juel* (42), *Jylland* (44), and the corvette *Heimdal* (16), under Commodore Suenson, and at once attacked him. The action commenced at a quarter to two, and ended about four. The two squadrons engaged each in close order under steam, the Danes attempting to cut off the gunboats. Tegetthof prevented this, but in so doing, his flagship, the *Schwarzenburg* was raked. A shell struck her foresail and set it on fire, and the flames spreading, enveloped the foretopmast. The ship's pumps had been damaged by a shot, and her position was very critical. Fortunately for her, she succeeded in reaching neutral waters before the fire had obtained a firm hold, and the Danes sheered off, a good deal damaged. Their loss was, killed fourteen, wounded fifty-four. The Austrians lost thirty-six killed, and fifty-two severely wounded. The burning mast of the *Schwarzenburg* had to be cut away. Though defeated, Tegetthof compelled the Danes to raise the blockade of the Elbe, so that the strategical advantage rested with him. Staff History, p. 88-9. Laughton, 158-161.

† Staff History, p. 14.

incendiary it was suspected, and had been severely damaged. There remained ready for sea, the ironclads *Drache*, *Kaiser Maximilian*, *Prinz Eugen*, and *Salamander*, vessels of from 3400 tons to 3800 tons, carrying 4½-inch armour of Styrian iron; the steam line-of-battleship *Kaiser* of ninety-one guns; the frigates *Adria*, *Donau*, *Radetsky*, and *Schwarzenburg*, one corvette, two imperial yachts used as despatch-boats, and seven gunboats. One steamer was taken over from the Austrian Lloyd Company to serve as a scout; the *Habsburg* and *Ferdinand Maximilian* were hastily completed, with jury-rigging and smooth-bore guns; the *Don Juan*, where she lacked armour, was covered with stout planking; and the *Novara* was repaired. Comparing the *matériel* of the two powers, the figures are greatly against Austria. In ships the Italians had a proportion of 1·99 to the Austrian 1, in number of guns 1·66 to 1, in tonnage 2·64 to 1, in horse-power 2·57 to 1.* Judged by ships alone Austria could have no hope of success. Nor if we look at men did her prospect appear more brilliant. Her sailors were Italians or Dalmatians; of the former nationality were 800 men from Venice itself, who might be supposed to be thoroughly untrustworthy; and by the date of Lissa Venice was all but ceded to Italy,† so that Tegetthof had serious scruples himself whether he ought to keep these men with his flag, and not to dismiss them. It was only when he had received positive assurances, by telegraph, that Venice was not yet Italian, that his doubts were ended. The Dalmatians were good material to work upon, but they, again, were not altogether to be trusted. So inspiring is a great personality, however, that Tegetthof from the first had no difficulty with his men. They were ready to follow him even against their own kith and kin.

* Staff History, p. 10.

† Venice was offered by the Austrian Emperor to France on July 5th. The *Provence*, a French ironclad, was already off Venice on July 16th. Staff History, 31.

As Austria had only kept a very small squadron in commission in home waters—three frigates and three gunboats—it follows, as a matter of necessity, that the greater number of the sailors, who were mobilised, were untrained men. On April 30th the order had arrived to prepare a squadron for sea, and from that date Tegetthof was constantly exercising his sailors, and striving to inspire his subordinates with his own ardour. Whilst Persano was spending week after week in depressing inactivity, Tegetthof, face to face with difficulties far greater, with unready ships and an imperfectly equipped arsenal, was yet building up a fleet. His crews were strange to ironclads and to rifled guns; he wanted engineers, for of the Austrian ships in regular commission some had hitherto been sailing vessels, which could consequently train no engineers; his guns were feeble in power. But everything which could be done, he did. He held constant conferences with his officers, like Nelson discussing with them plans for every emergency. He strove to make up for the weakness of his guns by concentrated broadsides; that is to say, it was arranged that all the guns which would bear in any one ship should be trained upon some particular portion of her opponent's hull, and fired simultaneously. In this way all the shots would strike simultaneously upon a small area, instead of being scattered up and down the enemy's side. Not only this, but remembering Farragut's saying, "Ships of wood, hearts of iron," and the achievements of the *Merrimac*, he resolved to use his ships as rams: "Rush on the enemy and sink him," was the watchword. The wooden vessels were covered with chain cables in the way of the engines, a device which gave stokers and engineers confidence, if it did not add greatly to the strength of the hulls. Every day his fleet went to sea; the ships manœuvred together, whilst their captains gained experience. There was constant signalling, and practice for the gunners in firing concentrated broadsides. In the Fasana Canal, the entrances to which were mined, the Austrians had a safe sheet of water for evolutions. When they went to sea,

despatch-boats were held ready at Pola to give them instant notice of any Italian movement.

On June 24th Tegetthof asked leave to be permitted to take the offensive. It was granted him with certain restrictions, and on June 26th, he put to sea with six ironclads, one frigate, four gunboats, and two despatch-boats, hoisting his flag upon the *Ferdinand Max*.* He was under the impression that the bulk of the Italian fleet was still at Taranto, and hoped to meet its ironclads coming round one by one to Ancona from that port, and thus to capture them in detail. On the 27th, he reached Ancona, and looking into that port, saw that the Italians were there. His keen eye noted their disorder and irresolution, and thenceforward he understood that they were not to be feared. After challenging a battle with his inferior force, he retired at nightfall to Fasana, and for the next few weeks kept his ships with steam up, ready to move at a moment's notice. On the 6th of July, he went as far as Ancona with his squadron, but on this occasion did not offer battle to the Italians.

In these days of waiting, he added his last touches. The upper masts and sails were sent ashore ; a new code of signals was drawn up, and the hulls of the ships were cleaned, a few at a time. Transports, meanwhile, went to and fro, distributing troops at vulnerable points. His period of inactivity was over at last. On July 17th arrived a telegram from Lissa, announcing "Warship reconnoitring the island under the English flag." Next day, in quick succession came further telegrams. "Nine ships of war without colours, making for the island." "Ten warships advancing under the French flag." "Ships signalled manœuvring to the north-west with flags lowered ; give the alarm." "Ships signalled moving on Lissa, ten miles distant ; the attack imminent." "Comisa attacked by ten ships ; Italian flag." "Port of Lissa attacked." "Fierce cannonade of Lissa ; no casualties." At first,

* The name *Maximilian* is regularly abbreviated to *Max* in the official Austrian account.

Tegetthof had doubted whether Lissa was the real objective of the Italian fleet, imagining that this was only a strategem to draw him away from Venice and Trieste. But, when on the 19th, a fresh telegram* told him that the attack upon Lissa had recommenced that morning, he telegraphed to Vienna for leave to act, then summoned his officers to a final conference, and made known to them his intentions. A little later, he signalled to his ships "Get steam up in all boilers," and "As soon as under steam, leave." At 1.30, the admiral's ship joined the rest of the squadron, which had, in obedience to orders, assembled outside the harbour, and half-an-hour later the reply arrived from Vienna sanctioning action. Amidst the cheers of the crews, and the inspiriting strains of the Austrian national anthem, the fleet set out to give battle and to save Lissa. Tegetthof's preparations were completed. His instructions were precise. The ironclad division was to break the Italian line, to strive to ram their ships, to fight at close quarters, and to concentrate its fire. The wooden ships, according to the enemy's order, were to attack one or other wing of the hostile line, or to be employed by Commodore Petz as he saw fit. The gunboats, small handy vessels, were to divide into three groups, and in the action to support the wooden ships, and strive to rake the enemy's ironclads. Thus the Austrians had done all that could be done to ensure success, and Tegetthof's officers thoroughly understood their commander's designs. That he might not be taken off his guard he sailed in fighting order. First came the seven ironclads, disposed wedge-wise, or technically, in two bow and quarter lines,† the flag-ship being at the apex of the wedge. On her left were the *Kaiser Maximilian*, the *Prinz Eugen*, and the *Salamander*; on her right the *Don Juan*, *Habsburg*, and *Drache*.‡ Next followed the *Archduchess Frederick*, act-

* From the Governor of Dalmatia, as the Lissa wire was now cut.

† *See* plan., p. 234.

‡ For details of the ships, *see* Table viii.

ing as repeater; then, at an interval of 1000 yards, the frigates, in wedge-shaped line, the *Kaiser*, carrying the flag of Commodore Petz, leading. Behind her came another repeater for signals, and after another 1000 yards the ten small craft. It is to be noted that the formation adopted placed the strongest ships in front, covered in no small degree the weaker vessels, concentrated the maximum of strength in the minimum of space, gave scope for the employment of the ram, and yet did not mask the broadside fire of the ships. Tegetthof's intention, when he met the Italians, was to break their line, and in the classic fashion to concentrate upon the weaker section of it. He did not altogether foresee the difficulty which would be experienced in keeping his ships together. But as they had orders to support each other, his captains could be trusted to do their best: they knew what he wished.

At 6.40 on the morning of the 20th the look-out reported the Italians in sight. Immediately after a squall came down and cut them off from view, but as the Austrian crews were at breakfast, and as Tegetthof wished his men to enter the fight in the best of physical condition, he did not spoil the their appetites by revealing the news. The storm was so violent that the speed of the ships had sunk to five-and-a-half knots, and for a short time Tegetthof doubted whether he could, with safety, engage. At nine o'clock, however, the wind moderated and the sea became calmer, though still heavy enough to disconcert the gunners of the smaller craft. After breakfast the men went to quarters quietly and in order. The signals "Close up" and "Full speed" were made, and finally, at 10.35, a few minutes before the collision, "Ironclads to charge the enemy and sink him."* At their fastest speed, which may have been eight or may have been ten knots, the Austrians neared the Italian line.

When he first caught sight of the Austrians, Persano had made a multiplicity of signals. First he despatched orders to

* "Panzerschiffe den Feind anrennen und zum sinken bringen."

the *Terribile* and *Varese* to join him, and then he proceeded to draw up his own ships and those of Vacca in single line abreast, facing north-west. He signalled to Albini to abandon the boats and men on shore, leaving to the gunboats and small craft the task of rescuing them, and at the same time ordered him to form up his wooden ships behind the ironclad line, an order which Albini averred he had never received and therefore could not obey. A few minutes later, discovering that his line abreast faced in the wrong direction, Persano made the signals, "Steer for a minute to the north-east," and then "Close up," and "Attack the enemy." The ironclads came very slowly to their stations, and the *Re di Portogallo* and *Castelfidardo* signalled "Defects in engines." However, they made repairs, and at last took their places. The *Formidabile* at once steamed off to Ancona, after making Persano the signal, which he acknowledged, that she could not fight. She might not have been able to use her guns, but she had at least her ram. About nine in the morning the line abreast was formed, when an idea suddenly occurred to Persano. The battles of the past had been fought in line ahead; must not he, then, adopt this position? Accordingly, he made yet more signals; this time it was "Form line ahead."

In the face of the enemy's approach the change was accomplished, and the line was marshalled thus. First came the *Carignano*, with Vacca's flag; then the *Castelfidardo* and *Ancona*: next Persano's flagship, the *Re d'Italia*, with the *Affondatore*, *Palestro*, *San Martino*; last of all Ribotti, with the *Re di Portogallo* and *Maria Pia*. The *Terribile* and *Varese* were still leagues away to the south, so that the whole line covered a space of thirteen miles. Persano states that he had intended to fight his force in three groups: Vacca's of three ships, his own of five, and Ribotti's of four; but the absence of three ironclads upset his plans and left huge gaps. Yet he must have known at eight o'clock that the *Terribile* and *Varese* could not join him before ten, and that the *Formidabile* was a weak reed upon which to lean.

The fleet had just got into line for the second time when a fresh idea struck the admiral. He had read somewhere that the commander's place was on a swift handy ship, outside the line of battle, and supervising it. As the *Re d'Italia* was neither swift nor handy, he stopped her, throwing the whole line into confusion, and signalled the *Affondatore*, which followed her, to come up. He knew, however, that the *Affondatore* was an unmanageable ship, since only the previous day her commander had complained of her;* that she was a monitor and had very little rigging, so that signals could only be made from her with difficulty, and worst of all that none of the other captains had any knowledge of his purpose. The ships in front and behind were a mile from the *Re d'Italia*, and could only see that a boat had gone from the one vessel to the other.†

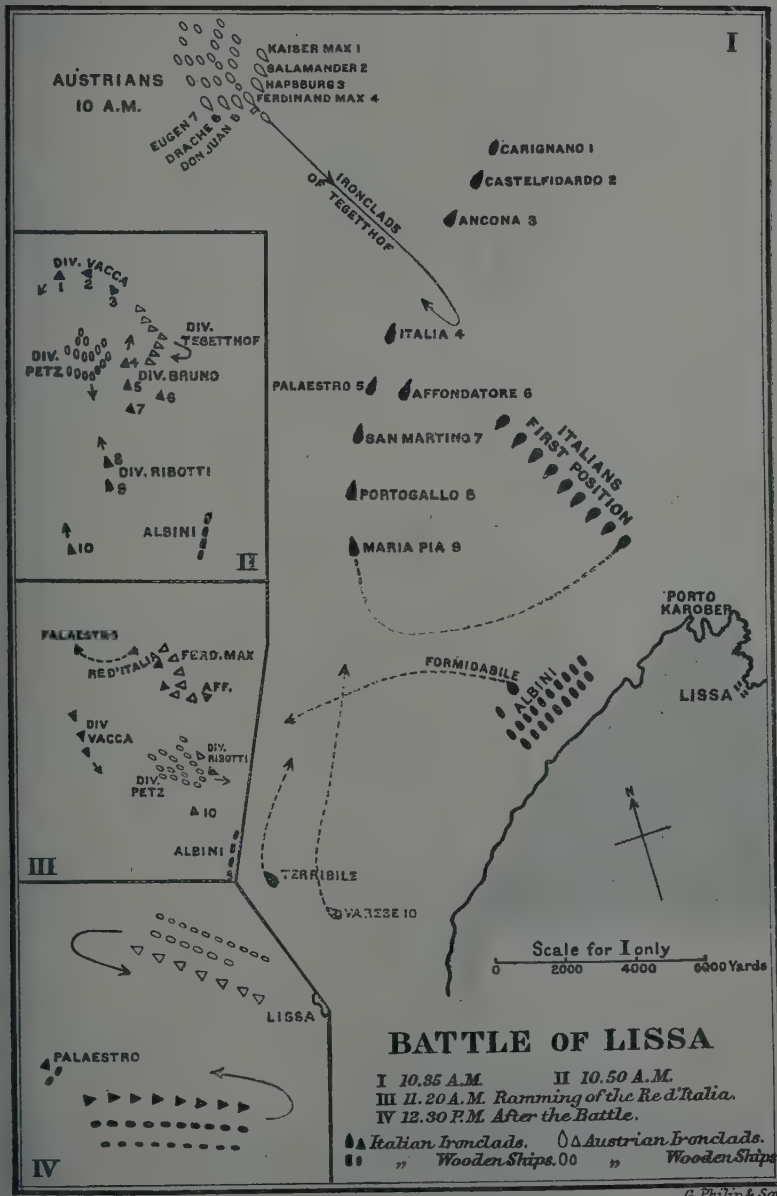
Persano left his flagship with his flag captain and one staff officer, but Boggio, the deputy, though invited to go with him, stayed to his doom. As soon as the admiral was on board the *Affondatore* he commenced to race up and down the line, doing little fighting, but making numerous signals, amongst others, "Diminish distances between ships," and "Attack the enemy when within range." As nobody knew where he was, and as all the ships were so dressed with flags that signals could not be distinguished, nobody paid any attention to him, and the Italian fleet was left to fight in isolated units against a combined force; without leaders or orders against captains who could see their admiral and who knew his plans. Persano's own words are curiously at variance with his subsequent action, and show how little idea he had of what a naval battle was like. "I perceived the convenience of taking up my position outside the line in an ironclad of great speed, to be able to dash into the heat of the battle, or carefully to convey the necessary orders to the different parts of the squadron, and direct their movements

* Rendiconti, 195-6. † *Id.*, 103.

according to necessity." * He did very little "dashing into the heat of the battle," though he quite made up for this by the multitude of his signals.

By stopping the *Re d'Italia* Persano had opened a tremendous gap between her and the *Ancona*, leaving Vacca's squadron of three ships unsupported. For this alone he deserves the severest condemnation, since in any case, if it was advisable for him to embark on board a fast vessel, he should have given notice of his intention beforehand to his captains, and not have waited till the Austrian fleet was almost on him. A quarter of an hour after he had left the *Re d'Italia* the Austrians in compact order passed through his line. They had exchanged shots with Vacca's division, the *Carignano* opening fire at two hundred yards, but in the heavy swell, the Italians shot so badly that all their projectiles passed over the Austrian ships. Neither captains nor crews on Tegetthof's fleet could believe that this was really a battle, and that they were under the fire of the terrible Italian Armstrongs. Whether because of the smoke from their own guns or because the Italians manœuvred well, no Italian ship was rammed at this first charge. As the Austrians came through, Vacca had wheeled his three ships to port, showing something of the intuition of a commander, and had endeavoured to fall upon the weaker vessels in the Austrian rear. But he executed the movement very slowly, and before he could turn, the Austrians had passed. Commodore Petz, in the *Kaiser*, now headed south to engage the Italian wooden ships, but found himself confronted by Ribotti's division, re-inforced by the *Varese*. These did not, however, engage him at first, but placed themselves between Petz and Tegetthof, whilst Albini was left to encounter the wooden ships. Though he had eight large vessels mounting 420 guns, this commander had come to the conclusion that wooden ships had no business in an ironclad battle, and refused to stir. Ribotti's force, having interposed

* Revue des Deux Mondes, lxxi. 309.


I
AUSTRIANS
10 A.M.
KAISER MAX 1
SALAMANDER 2
HAPSBURG 3
FERDINAND MAX 4
EUGEN 7
DRACHE 8
DON JUAN 9
IRONCLADS OF TEGETTHOF
CARIGNANO 1
CASTELFIDARDO 2
ANCONA 3
ITALIA 4
PALAESTRO 5
AFFONDATORE 6
SAN MARTINO 7
PORTOGALLO 8
MARIA PIA 9
ITALIANS FIRST POSITION
DIV. VACCA
DIV. TEGETTHOF
DIV. PETZ
DIV. BRUNO
DIV. RIBOTTI
ALBINI
II
PORTO KAROBER
LISSA
FORMIDABILE
PALAESTRO
RE D'ITALIA
FERD. MAX
AFF.
DIV VACCA
DIV. RIBOTTI
DIV. PETZ
ALBINI
III
TERRIBILE
VARESE 10
Scale for I only
0 2000 4000 6000 Yards
LISSA
PALAESTRO
IV
BATTLE OF LISSA
I 10.35 A.M. II 10.50 A.M.
III 11.20 A.M. Ramming of the Re d'Italia.
IV 12.30 P.M. After the Battle.
Italian Ironclads. Austrian Ironclads.
" Wooden Ships. " Wooden Ships

G. Philip & Son.

between Tegetthof and his second in command, then proceeded to assail the *Kaiser* and her wooden sisters, whilst Albini looked quietly on.

Meantime, Tegetthof had wheeled and re-entered the battle, falling upon what had been Persano's division. The whole seven Austrian ironclads had concentrated upon the *Re d'Italia*, the *Palestro*, and the *San Martino*, and the first two ships fared badly. The action had now become a series of confused combats in the dense smoke, which only gave each combatant momentary peeps of the other. The Austrian ships were black, and the Italians, by a happy idea of Persano, were painted a light grey, so there was little risk of making mistakes. The Austrians had further coloured the funnel of each vessel differently, so that they were easily able to identify their own ironclads, but the Italians had shown no such prevision. Tegetthof's orders were clear and concise—"Ram everything grey." The Austrian ships ranged backwards and forwards in the smoke and uproar, always endeavouring to ram, and generally failing in their attempts. In particular, they were directing their assaults upon the *Re d'Italia*, when the *Palestro* came up to her help. Concentrated broadsides, some of hot shot, were fired with the greatest rapidity into her stern, whilst her projectiles, as usual, went wide. Some minutes of furious cannonading succeeded, before the sailors in the tops of the *Drache* shouted that the enemy was on fire, and dense smoke was seen rising from her deck. The *Palestro* falling back, the *Drache* at once gave chase, but could not come up with her enemy, owing to her low speed, and the Italian passed out of sight, whilst the *Drache* returned to the attack on the *Re d'Italia*. The *San Martino* next came to the help of the former flagship, after exchanging fire with the wooden ships of Commodore Petz; seeing which, says the Italian account, the Austrians closed round the *Re d'Italia*, endeavouring to ram her, and one vessel actually struck her sternpost, carrying away the rudder, and leaving her practically helpless. She was now in a most critical position, surrounded

by Austrian ships. Her captain, Faa di Bruno, endeavoured to go ahead and draw closer to the *Ancona*, which was about this time on fire, though she easily extinguished it, owing to the foresight of her captain who had made full provision against this risk. "Threatened on the bow by an enemy, the *Re d'Italia* encountered another ironclad a little distance ahead, which was endeavouring to bar her passage. Abandoned, and reduced to her own momentum, without being able to use her rudder, she could not avoid the ram of the ironclad frigate which threatened her on the left. The captain had already summoned his crew to prepare to board, when his ship lurched heavily to port and went down."* Thus the Italian version. Tegetthof, as he came through the thick cloud of smoke which enveloped the ships, saw suddenly before him a great grey mass, stationary in the water. The orders, "Full speed ahead," and "Be ready to reverse engines," went down the voice-pipes to the engine-room, and at her full speed of eleven-and-a-half knots the *Ferdinand Maximilian* charged her opponent. In front of the *Re d'Italia* lay a second Austrian ship, but Faa di Bruno, in spite of the brave words at the council of war, made no attempt to ram her. Instead, he went astern at the critical moment, when, had he stopped or gone ahead, he would have avoided the blow. The *Ferdinand Max* drove her prow gently into the Italian ship, rising for a moment as she struck her, and then sinking again, as her ram, with a dreadful crunch, cut through the iron plating and wood backing of the luckless ship. The shock was by no means great on board the *Ferdinand Max*; some men were thrown to the deck as she rammed, and the concussion was plainly felt in the engine-room, the engines being at once reversed, but no damage was done to the Austrian. The *Re d'Italia* heeled heavily to starboard as she took the blow†; then as the *Ferdinand*

* Official Italian Report. Revue Maritime, xviii., 233.

† The shock, was not, however, violent upon her. Delsanto, in Rendiconti, p. 202.

PLATE XI. THE SINKING OF THE RE D'HALIA.

Max backed out, she lurched to port showing a terrified crowd upon her deck. So close was she that an Austrian officer exclaimed, "What a splendid deck." For a minute or two the battle paused, whilst all eyes were fixed on the doomed ship. Her second lurch was her last; she settled heavily in the water, and her crew with a last triumphant cry, triumphant even in death, "Venezia e nostra," went to their fate. Some, as the ship tilted, were seen casting off their clothes and leaping into the water on the side away from the rent; these were mostly saved, but those who jumped overboard to port were carried down and drowned in the vortex. The captain, Faa di Bruno, when he saw that his ship was lost, with the words, "The captain must perish with his ship," drew his revolver and blew out his brains.* The chief gunner, Poltio, as she went down observed that a gun remained undischarged, and ran to fire it, crying, "Just this one more." And owing to the heel it was feared that the *Re d'Italia's* flag might be captured by the Austrians. "Cries were raised to save it, when Razzetti, a marine, caught it and fastened it firmly to the ship, discharging his revolver at an Austrian officer." If the Italians did not know how to fight they at least met death well, and in the hour of their disgrace, the shout of the crew, and these heroic deeds were remembered by Italians with love. These were brave men, but bravery does not of itself win battles.

Tegetthof looked with horror upon the deed that he had done. The water was full of struggling men, and he at once gave orders that boats should be lowered. It was impossible. Already the *San Martino* and another Italian ship were drawing near, and he had to avoid them. He steamed ahead, signalling to the despatch-boat *Elizabeth*, which followed him closely, to remain and pick up the men. She, too, was attacked and driven off by the Italians, who did not know her

* Revue Maritime, xix., 573. (Translation of Persano's version of the battle.) This story is of doubtful truth, and does not find a place in the Austrian Staff History.

errand of mercy. The unfortunate remnants of the *Re d'Italia's* crew were left to struggle for hours in the water, whilst shot and shell dropped amongst them. It was said by the Italians that the Austrians mocked at these men and fired upon them; the story is quite incredible, and may probably be explained by the fact that, in the fury of the struggle, stray projectiles struck some of them.

Before the *Ferdinand Max* dealt this successful blow she had rammed twice, ineffectively, because the angle of impact had been too oblique.* By the loss of the *Re d'Italia* and the withdrawal of the *Palestro* the Italians found their ironclad squadron reduced to eight vessels. "Nevertheless," says Persano, "they continued, full of confidence, to fight twenty-seven hostile vessels." What a confession! The eight were fighting the twenty-seven because half the Italian fleet were malingering, or absent through the admiral's own folly. Where was Albini, with his eight frigates? Where the *Terribile*? Where even the *Affondatore*? If this was not the hottest corner of the battle, Persano strangely misunderstood the engagement.

The Austrians next assailed the *Re di Portogallo*, *Maria Pia*, and *Varese*. This group of vessels had been fiercely engaged with Commodore Petz, to whose fortunes we must recur. Finding his squadron threatened on the flank by the Italian ironclads, Petz had turned his attention from Albini to them. The *Affondatore* appeared, heading straight for the *Kaiser*, and for a minute it seemed as if the two must meet bow to bow and both go to the bottom. At such a minute it is the weaker man who flinches, and Persano was the weaker man. He swerved slightly as the *Kaiser* came on, then turned and disappeared in the press of ships. The *Re di Portogallo* had attacked the small and weak *Elizabeth* and *Frederick*; to save them the *Kaiser* charged straight on her, pouring the while concentrated broadsides upon the Italian ironclads which

* Probably the two ships rammed were the *Re d'Italia* (p. 235) and the *Palestro*.

were gathering round her. The *Carignano*, *Castelfidardo*, and *Varese* were formidable antagonists, but she survived the contest with them. The *Portogallo* lay in front of her, and with a tremendous crash the *Kaiser* rammed her. Her bowsprit was carried away, her figure-head left sticking in the *Portogallo's* bulwarks; her foremast fell and carried down with it the funnel, and the alarm of "Fire" was raised. The *Portogallo* received small harm, as probably the projecting figure-head of the *Kaiser* broke the shock on her upper works, but so flustered were the Italian gunners, though they could have raked the *Kaiser* with ease as she lay end-on, that they either missed at this close range with their 300lb. shells, or in the excitement loaded only with powder. The *Kaiser* ground sides with the *Portogallo* and received the broadside of her smaller guns. Then at last the Austrian got free, and went ahead, terribly mauled, with her rigging on fire, and many of her gunners killed or wounded. At this minute the *Affondatore* appeared a second time out of the smoke, steaming on a course which intersected the *Kaiser's* at right angles. It seemed that nothing could save the unarmoured vessel, already half disabled. The *Affondatore* came on as if to ram; her men were ordered to throw themselves flat upon the deck;* the crash was imminent, when suddenly Persano for the second time gave the command to turn aside and to spare her. Perhaps he feared lest his enormous ram would be entangled in the *Kaiser's* hull, and his own ship carried down with her enemy.† But after all, a man so uncertain and irresolute was governed entirely by the impulse of the moment, and what that was we cannot know. His humanity has been alleged as an excuse for his timidity. The soldier or sailor has first to defeat the enemy and then to think of philanthropy. War involves as a necessary consequent the

* Rendiconti, 198.

† He asserted that he turned at the last minute because the *Kaiser* was disabled.

sacrifice of human life, and the more heavily the enemy loses in the battle, the sooner will he yield.

The *Ancona* and *Varese* were preparing to make a fresh attack upon Petz's division, when they collided, and remained for some minutes entangled. These minutes suffered the Austrians to get a start, and so to escape. The loss on board the *Kaiser* had been heavy. One of the *Affondatore's* huge 300-lb. shells had hulled her, killing or wounding twenty men. In all, she lost twenty-four killed and seventy-five wounded; but she had put Albini to shame, by showing that a wooden ship can encounter even ironclads and escape destruction. The two fleets had now parted, and the Austrian ironclads were moving to the support of their unarmoured ships, which were some distance from them. Seeing this, Persano made some more unregarded signals, amongst which was, "Give free chase." He had previously ordered his fleet to "Turn enemy's rear"; this he followed up with "Fight at close quarters," and "The admiral informs the fleet that the ship which does not fight is not at its post." As the Austrians were threatening the *Palestro*, which was now burning furiously, he steamed out to her rescue, and interposed between her and the *Kaiser Maximilian*, when the latter retired. The *Palestro* was taken in tow by the *Governolo*, and the *Independenza* was also ordered to stand by her, and remove her crew if necessary. Returning to the Italian fleet Persano made some pretence of leading it against the Austrians. He had still nine ironclads, for if the *Re d'Italia* and *Palestro* were no longer to be counted upon, the *Terribile* had at last appeared. His wooden ships were untouched, and even as he was, he was stronger than the Austrians in ships. But coal was running low, his men were thoroughly dispirited, his officers were sullen, and little ammunition was left. He was not the man to inspire with audacity a beaten fleet, and ended by finding himself supported by only a single ship. Reluctantly he abandoned his intention, and drew up his

ironclads in a single line, covering the unarmoured vessels, on a course parallel to that of the Austrian fleet.

Tegetthof had reached Lissa, finding, to his great joy, that the Austrian flag still flew there, and he, too, reformed his fleet, placing the seven ironclads in line ahead on the side facing the Italians. The unarmoured ships and gunboats drew up on parallel lines, away from the Italians. He was ready once more to meet his opponents, but he had no wish to provoke a second engagement. He had already scored heavily, and he did not want to imperil his success. He knew that his was much the weaker fleet, and that, if it was defeated, Lissa was lost. His guns were useless against the Italian armour, and the ram, his only remaining weapon, had not proved so easy of employment as he had expected. If he had seen any reasonable chance of destroying the Italian fleet his determination to end the battle at this point would have been culpable, but as he had no chance of even catching his enemy, since his slowest ironclad was much slower than the slowest Italian, he can only be praised for his discrimination. Had he carried heavy Armstrong guns, or had his ships been a couple of knots faster, he could, and probably would, have made an end of Persano. But with his indifferent smooth-bores and weak 24-pounders, with his eight or nine knot frigates, there was nothing to be done. The two fleets watched one another till nightfall, the Italians steaming a zig-zag course, but keeping at a respectful distance from Tegetthof. At dusk Persano steered for Ancona, and Tegetthof for Pola.

About 2.30 the luckless *Palestro* had blown up. She had been set on fire in the neighbourhood of the ward-room, either by hand grenades or by an Austrian 48-pounder shell. Her captain, Cappellini, had flooded her magazines, but overlooked an emergency store of ammunition, brought up to enable the guns to be loaded quickly in the action. Cappellini refused to desert his ship, saying: "Whoever likes can go, but as for me, I stay;" and his crew followed his brave example, from time to time raising cheers for Italy and her King. The fire

steadily gained ground in spite of all the efforts of the ship's company, till the flames reached this ammunition. Of 230 officers and men, only nineteen, one of whom was an officer, escaped. Both fleets were awe-struck spectators of the explosion.

When the Austrians drew off Persano had looked round for the *Re d'Italia*. The smoke had veiled from him her end, and he, therefore, signalled to know what had happened to her. "Sunk," was the answer of his fleet. Some minutes later, whilst he was endeavouring to lead the Italians once more against the enemy, the *Carlo Alberto* signalled to him, "Discovery of Shipwreck." She had found a large number of men in the water clinging to planks and wreckage. It appeared that the survivors of the *Re d'Italia's* men were on the point of drowning when suddenly there came an upward rush of water, caused perhaps by the explosion of her boilers, which carried to the surface timber and fragments to which the swimmers clung. One hundred and sixty-six were saved, of whom nine were officers: the rest of the crew, 400 in number, with Boggio, the deputy, were lost. Such of the dead as were recovered lie in the Campo Santo, at Lissa, side by side with their foemen.

If we inquire in detail the part each of the ironclads played in the encounter, we have fairly full accounts of most of the Austrian vessels, and of the *Affondatore*. The *Ferdinand Max* we have followed already: she rammed in all three times, and kept boarding parties ready on her deck, but steam has made boarding impossible—at least till engines or propellers are disabled. It was said in the Italian account that the *Max* especially hunted the *Re d'Italia*, but this is untrue: she met her by chance. She fired 156 shots. The *Habsburg* employed converging fire without any success. The *Kaiser Maximilian* attacked the *Re d'Italia* at two cables distance, when it was noticed that the Italians fired far too high. Her funnels, masts, and rigging were injured, not her hull. About eleven, she rammed an unknown Italian ship,

but did her no great harm. It is possible that it was the *Re d'Italia*, whose stern is said to have been damaged. After this charge, she chased a small ironclad, probably the *Palestro*. In all, she fired fifteen converging broadsides. The *Don Juan* followed Tegetthof closely at the beginning of the fight, but quickly separated from him, and was surrounded by Italian ships, to be disengaged by the *Kaiser Max*. During the whole of the engagement, she only saw one signal from Tegetthof, which was "Support the second division." For half-an-hour she was assailed by a large Italian ironclad, perhaps the *Portogallo*, which unsuccessfully tried to ram her. She also exchanged fire with the *Affondatore*, and one 300-pounder shot perforated her unarmoured sides, doing no damage, as it passed right through her. A second struck her armour, but failed to perforate; and a third, her quarter deck. The *Prinz Eugen* opened with her chasers at 10.40, and fired concentrated broadsides as soon as her guns bore. The *Affondatore* came past her, but, as usual, missed her with ram and shot. She was close to the *Ferdinand Max*, whilst that ship was manœuvring to ram an unknown Italian, which turned and came between the *Prinz Eugen* and the Austrian flagship, eluding the blow. In her engine-room, the shot could be heard striking upon the water-line, but no damage whatever was done. The *Drache* was very hotly engaged. Captain von Moll, who was on deck directing her, was struck by a shot which carried away half his head and instantly killed him; the steam-drum was injured; the mainmast fell; and a shell bursting on board set her on fire, but the flames were very quickly got under. Her crew did not suffer severely, as they were kept lying down as far as possible. She it was who set the *Palestro* on fire. The *Salamander* endeavoured to ram, but did not succeed. Her conning-tower was struck by a shell, and her commander wounded.

Persano has told us all about his doings in the *Affondatore*, though whether we can accept his statements, may be questioned. The impression among both Italian officers and

Italian people, was that he had taken one of the finest ironclads out of the fighting line, and made little or no use of her. The officers of the wooden ships saw him manœuvring backwards and forwards outside the battle-smoke, when the *Re d'Italia*, hard beset, was fighting for her life. "After firing on the Austrian flag," says Persano, "the *Affondatore* tried to ram, but failed; then traversing the hostile line at a distance of fifty yards, fired again on the flagship, and crossing the line, rammed one of the Austrian ships round the *Portogallo*." This appears to be an absolute fabrication. "Issuing from the smoke, she signalled to the wooden ships to attack, but they made no movement."* She tried to ram the *Kaiser*, but missing her blow, only scraped sides, and received from the line-of-battle ship a plunging fire which perforated her deck, whilst the riflemen in the enemy's tops played havoc amongst the men on her deck, who were trying to fix in its place one of the anchors, which had broken loose, and was bumping violently against her side. Still keeping close to the *Kaiser*, she tried to ram again, firing her 300-pounders at the Austrian, who again eluded her, and with a heavy broadside set her on fire. Perceiving that the *Kaiser* was in a bad way, Persano felt "he could no longer concentrate his attention upon a disabled ship,"† and retired, leaving his enemy to escape. As the bad workman quarrels with his tools, he complains that the *Affondatore* was a most awkward ship to handle and steered very badly.

The losses of the victors were extraordinarily small. Thirty-eight were killed and 138 wounded on board the Austrian ships, but on the armourclads only three were killed. The *Kaiser* suffered far the most.‡ The Italians lost five killed and thirty-nine wounded, excluding those who perished in the attacks on Lissa, and on board the *Re d'Italia* and *Palestro*. These brought up the figure of their dead to about 620, and

* "Revue Maritime," xviii., 235.

† *Idem*, xix., 567.

‡ The losses of the Austrian ships are given in Table VIII.

the total of their wounded to 161. They lost two ironclads in the battle, and a third, the *Affondatore*, sank a few days after the fight in Ancona harbour, probably because of the severe pounding she had undergone. The damage done to the Austrian ironclads was very slight. The Italian projectiles in no case went through their armour and backing; with one exception the dents were insignificant. The *Ferdinand Max*, which had a blunt, slightly projecting prow, not formed of a single steel or iron casting, but simply of armour-plates carried right forward and meeting at her cutwater, had lost her paint where her prow had penetrated into the *Re d'Italia*. A few plates were started and she made a few inches of water an hour, but otherwise she was uninjured.

Turning next to the Italian ships, all the ironclads were much battered, but not one seriously harmed. The *Formidabile* had been disabled in her action with the Madonna battery. The *Maria Pia* had one plate shattered; a hardened-steel projectile remained stuck in another; and she had been on fire badly, the flames all but reaching her powder magazine. The *San Martino* was repeatedly hit, and once perforated where her armour was 4 inches thick, but the shot had not passed through the backing. In her collision with the *Maria Pia* her ram had been twisted, causing the ship to leak. She was on fire twice, but on each occasion the flames were got under, though not without difficulty. The *Castelfidardo* was set on fire in the captain's cabin by a bursting shell. The *Ancona* had many plates displaced, whilst one shell burst in her battery, coming through a port-hole. The *Carignano* had one plate shattered and one gun had burst on board her. The *Portogallo* had many of her armour-plates loosened or forced in by the *Kaiser's* attempt to ram. Lastly, the wooden frigate *Maria Adelaide* had been struck fourteen times, one shell entering her bunkers.

A glance at the comparative table* will show the heavy odds against the Austrians at the beginning of the fight. The

* Table IX.

Italians had nominally nearly twice as many ironclads with fifty per cent. more guns. They had the superiority in both size and numbers. In rifled ordnance, the only weapons of any use for a conflict between ironclads, they had an enormous advantage, 276 pieces to their opponents 121, and this advantage was enhanced by the greater power of the Italian guns, which fired a weight of metal four times that discharged by the Austrians. The total number of hits scored by the beaten fleet was 414, or less than one for each gun brought into line. We can never know what the Austrian hits were, since the *Palestro* and *Re d'Italia*, both of which were in the hottest of the fight, went to the bottom, but in all probability they were far more numerous. The great value of armour in saving life is manifest, since in the armoured ships of either side, excluding the *Palestro* and *Re d'Italia*, only eight lives were lost. Contrasting this with the *Kaiser's* twenty-four killed and thirty-seven severely wounded, we see the great danger of sending ill-protected ships into the line of battle. Artillery was as yet in its infancy, and the plating of those days was, under service conditions, impenetrable, but the efficacy of armour has been shown by the Yalu to still continue. The numerous fires upon the Italian ships may have been due to hot shot, or to shells; there were fewer upon the Austrian vessels.

The defeat of the Italians can now be readily explained. The battle was fought without a leader on their side: in the words of an Italian, Amico, "La battaglia di Lissa fu dunque combattuta senza capo, senza direzione, senza unità d'azione."* Except Vacca, the subordinate commanders showed either positive cowardice or irresolution. Albini, looking calmly on deaf to orders, whilst his comrades fought and perished, is no very heroic example. Persano's sudden change to the *Affondatore* threw the line into confusion at the critical moment, and left his captains ignorant of his whereabouts. The gunnery

* Amico, 143. "The battle of Lissa was fought throughout without a leader, without orders, without unity of action."

of the Italians was wretched: whilst they suffered considerably from Austrian shells striking the port-sills and exploding there, the Austrians did not lose a man in this way. It may have been that the Italian fuses were defective, for Boggio, in a letter complains of them, or it may more probably have been the case that the gunners were inexperienced, and, handling very heavy weapons when the ships were rolling in the swell, fired on the upward roll. Yet of 1452 shot discharged by the seven Italian ironclads, which were hotly engaged and survived the engagement, perhaps a fourth hit the mark. If this seems a high proportion, there is the fact that the fight was at very close quarters.*

We have now to consider the tactics of Tegetthof. His purpose was to throw a mass of ships on one point, and by superior handling of his inferior force to neutralise his opponents' predominance in strength. He decided to break the line near one or other extremity of it, and chose the van rather than the rear, because, had he attacked the latter, he would have been exposed to the cross-fire of the wooden ships; perhaps, also, because he saw the gap between the *Ancona* and *Re d'Italia*. His force had a front of under one-and-a-half miles. He sought to produce a general *mêlée*, partly because his fleet was the best trained and best disciplined, and therefore, he thought, would be less likely to fall into disorder or confusion, and partly because he had no long-range cannon, and if he had engaged at a distance the Italian heavy guns would have crushed him. His ironclads were to attack and ram the vessels in front of them, and thus to protect the feebler wooden ships. His formation was well adapted for the use of the ram, but was defective in two ways it lacked elasticity, and there was some danger of friend firing into friend. He was, however, assailing a fleet in no order at all; a fleet so circumstanced as to give him the very best chance of using the ram; and yet he only succeeded in

* Vacca complains bitterly of the badness of the Italian gunnery. Persano, 190.

sinking one ship with this weapon. "Tegetthof," says Admiral Page, "had a remarkable chance; the circumstances were extraordinary. In spite of the power of the ram, the gun is still the principal and dominating weapon of naval war." This was written in 1866, and shows singular insight. The Italian tactics should have been a rapid concentration upon the wooden ships when the ironclads had cleared the line. Vacca did, as we have seen, attempt this, but slowly and with some irresolution. Had he attacked from the north, whilst Ribotti's and Persano's divisions assailed from the south, the wooden frigates should have been destroyed. Again, the Italian divisions should have kept together. It is obvious, from the accounts of the battle, that the Austrians hunted in threes and fours, whilst the Italians fought individually and isolated. But there was no remedying the initial mistake of the attack on Lissa before the Austrian fleet had been crushed or masked. Looking at the strategy of the war, in the light of modern teaching, Persano should have led his whole ironclad force of twelve ships to Fasana, and challenged Tegetthof to fight. If Tegetthof had not come out, the *morale* of the Italians would have been raised: if he had decided to fight, the Italians would have been fresh, with ships in fair order, and without the encumbrance of gun-boats and weak frigates. After a successful action, or the refusal of the Austrians to fight, Persano might, at his leisure, have attacked Lissa, always remembering to observe carefully his enemy's fleet or what ships remained of it. He could have attacked the island, not by purposeless bombardments from the sea, but by landing an overwhelming force, which might have taken the works in their rear. On land and sea, Italian army and Italian navy betrayed an utter want of strategical insight and tactical ability.

Italy chose the royal road to defeat. She built a great ironclad fleet without training officers and men to take it into action. She forgot that ships alone are valueless, and that Armstrong guns, be they never so heavy, must have men

behind them who can shoot straight. She spent millions on material without considering whether her money was wisely expended. She neglected that preparation and organisation which are the whole essence of success in war. She forgot to train admirals as she forgot to train sailors. She had no naval staff with information and plans of action ready. At the supreme moment she selected a commander of Chinese dilatoriness and incapacity. The behaviour of that commander, long before the 16th of July, must have shown how little could be expected of him, if Italian statesmen had kept their eyes open. Had Vacca replaced him the result might have been less disastrous. But Persano was kept in command, an admiral of words, not deeds, playing only to the gallery, and obeying the orders of the gallery "to do something" against his own intuitions. Destitute of moral fibre, devoid of military qualities, though not it would seem altogether of courage, this most unhappy of admirals went forth to defeat, was defeated, and then threw the blame upon his subordinates, after he had vainly striven to hide his dishonour in a cloud of boastful and untrue despatches.

On the return of the fleet to Ancona, it was at first asserted that the Italians had won a great victory, and sunk three Austrian ships. But the loss of the *Palestro* and *Re d'Italia* was a manifest fact, whilst news came from Pola that all the Austrian vessels were safe. Gradually it leaked out; first, that the battle had been a Pyrrhic victory, and then that it had been a disgraceful and dishonourable defeat. The rage against Persano was furious, and it was not diminished by a despatch of his in which he mentioned the *Re d'Italia*, *Re di Portogallo*, *Palestro*, *San Martino*, and his own *Affondatore*, as the ships which had most distinguished themselves, when, even by his own account, the *Affondatore* had done next to nothing. The Italians have been blamed for this exhibition of feeling; it has been said that they forgot the splendid resolution of the Roman Senators, when, after Cannæ, they went forth to greet the defeated Varro, because he had

not despaired of his country. But Varro had at least played the man ; if an incapable commander, he was a devoted and a gallant one. And this act of the Senate was performed at Rome's greatest moral height, after three disastrous defeats had shown that Hannibal was no contemptible foe. The punishment which overtook Persano was neither undeserved nor excessive.

He was brought to trial before the Senate on the charges of incapacity, negligence, disobedience, cowardice, and treason. In the indictment and evidence it was stated that there had been no plans, no consultations of officers, and no attempt to train or discipline the crews of his ships. The manœuvres of the fleet off Ancona had been performed with great confusion, and the enemy knew of this. In the attack on Lissa, Persano had not exercised his command, but let each ship do what it wished. When the enemy was known to be coming, there were no dispositions made, no council of war. The change from the *Re d'Italia* had been so precipitate, that her launch could not rejoin the ship, as the ironclads were in motion, and firing had already begun. No one knew where Persano was, nor did he know what was happening to his ships. And lastly, he had taken the *Affondatore* away and done nothing with her. In his defence, Persano urged that Albini had disobeyed orders and refused to fight. The *Formidabile* had steamed off in defiance of his instructions to her to take her place in the line. The *Terribile*, when summoned, came so slowly, that the battle was over before she arrived on the scene of action. The *Varese* and *Ancona* were badly handled. When he signalled "General pursuit," only one ship obeyed. The officers showed great want of intelligence and coolness. And in regard to the attack on Lissa, he maintained that he was compelled by his orders to attempt it, and that his landing-force was altogether insufficient for its task.

Persano, no doubt, had some ground for his complaints, but an incapable commander generally produces incapable subordinates. Tegetthof, with far less advantages, had done far

more, and showed that defects in *matériel* can be made good by perseverance and activity. The Senate very justly convicted Persano of disobedience to orders by eighty-three votes to forty-eight; of incapacity and negligence, by 116 votes to fifteen. In punishment, he was deprived of his rank and pay. The general impression in Italy was that he had got off very lightly; and, certainly, when we compare the sentence pronounced upon him with that in the case of Marshal Bazaine, or Admiral Byng, he does not seem to have been hardly treated. It is ill work to strike a fallen man, but if ever soldier or sailor merited the contempt of his countrymen, Persano did. His opponent, Tegetthof, was at once promoted Vice-Admiral, and it was decreed that an Austrian ironclad should always bear his name. He died five years later of dysentery, contracted in Mexico.

Albini shared Persano's disgrace on the return of the fleet, and both were removed from their high positions, Vacca taking command. He was ordered to redeem the defeat of Lissa by an attack upon Pola, but before he could obey this order the war came to an end.

CHAPTER XI.

South American Wars, 1865—1870.

I.—Chili, Peru, and Spain.

II.—Brazil, Argentine Confederation, Uruguay, and Paraguay.

In 1864, the maltreatment of certain Basque subjects of Spain by Peruvians,* for which no redress could be obtained, provoked Spain to despatch a squadron against Peru. In this squadron the most formidable ship was the ironclad *Numancia*, a broadside vessel of 7300 tons, plated with 5½-inch and 4-inch armour, and mounting forty 68-pounder guns. She was built at La Seyne and had a speed of only ten knots. With her were the unarmoured ships *Villa de Madrid* (56 guns), *Resolucion* (23), *Blanca* (38), *Almanza* (52), *Berenguela* (36), *Vincedora* (3), and *Covadonga* (3). The armament of these vessels was very feeble, since of the 250 odd guns which they mounted few were rifles, the greater number being only 8-inch and 6-inch smooth-bores, firing 68lb. and 32lb. shot. Arriving off the Peruvian coast, Admiral Pinzon, the Spanish commander, took quiet possession of the guano deposits on the Chincha Islands,† and waited till the loss of revenue from this source should bring the South American Republic to reason. In 1865, Pinzon was replaced by Admiral Pareja, who resolved to take severer measures. As Chili was making demonstrations of friendship to Peru and of hostility to

* At Talambo, one Spaniard was murdered, and several others grievously wounded.

† April 14th, 1864,

Spain, the Spanish admiral steamed south to Valparaiso and blockaded that port with six ships, having left two to keep guard over the Chincha Islands. The Chilians had a most diminutive navy and could only reply by issuing letters of marque against Spain. On November 26th, 1865, however, they scored a great success by the capture of the Spanish gun-boat *Covadonga*. She was on her way to join Admiral Pareja, with despatches and papers of importance on board, when, off Coquimbo, the Chilian warship, *Esmeralda*, fell in with her. By hoisting the British flag, the Chilian was able to get close to her enemy, and opened fire upon her. The *Esmeralda* was the stronger ship, having a crew of 123 officers and men, with an armament of eighteen 32-pounder and 24-pounder smooth-bores, whilst the *Covadonga* carried 121 men with two 68-pounder smooth-bore pivots and one 32-pounder. The *Esmeralda's* fire was delivered steadily and with admirable precision. Early in the action she dismounted one of her opponent's three guns. In twenty minutes the Spaniards, who had fired only three shots, utterly nonplussed by the rapidity of the Chilian movements and the accuracy of their fire, hauled down their flag. They had lost two killed and fourteen wounded, whilst on the *Esmeralda* not a man was scratched. The Spaniards did not even take the trouble to throw overboard their signal-book and despatches, which fell into the hands of the Chilians.

This check, following upon the capture of an armed launch by the Chilians on November 17th, weakened Admiral Pareja's reason. Steaming north to Callao, whilst at sea, he blew out his brains in his cabin. He was succeeded by Admiral Nunez, who, as neither Chili nor Peru would come to terms, decided to give both a lesson. He began with the bombardment of Valparaiso, although that town was absolutely open to attack; and, except a few guns for saluting purposes, there was not a single piece of artillery mounted. The ships employed were the *Numancia*, *Villa de Madrid*, *Resolucion*, *Blanca*, *Berenguela* and *Vincedora*. At daylight on March 31st, 1866, all

these, with the exception of the *Berenguela*, which remained outside to guard the prizes taken by the Spaniards, steamed into the Bay of Valparaiso. At eight o'clock, two blank shots from the *Numancia* warned the Chilians of what was coming. At nine o'clock the Spaniards opened. The town was evacuated by the Chilians, and the few old guns were not used. A number of Chilian flags were left flying, however, as if to dare the Spaniards to do their worst. The *Villa de Madrid* and *Blanca* bombarded the Custom House to the west of the bay; the *Vincedora* shelled the Intendencia, and the *Resolucion* to the east fired at the Jesuits' College. In the centre of the bay lay the *Numancia*, taking no part in the operations. Midway through the bombardment the *Resolucion* and *Blanca* changed places. The firing was wretched from the point of view of accuracy. The shot from the ships sometimes dropped alongside, and sometimes flew over the town into the hills, where it killed unarmed and helpless men and women. Not a shot was returned. By half-past twelve the Custom House was on fire, and a part of the town blazing, when the signal to cease firing was given. From 2000 to 3000 shot had been fired to bring about this result, and the Spaniards had not much ammunition to spare. The fires destroyed £2,000,000 worth of neutral goods, but beyond this loss the bombardment was wholly ineffective. Instead of compelling the Chilians to submit, it only strengthened them in their determination to resist Spain, and without a strong landing force the Spanish fleet was helpless to do more harm. It is difficult to recall this useless and purposeless injury to a defenceless town without indignation, though such operations would seem to be the ideal of some strategists.

The next exploit of Admiral Nunez was against a fortified town. On April 27th, 1866, he appeared off Callao, issued a notice that the port was blockaded, and gave four days' warning of bombardment. Neutrals accordingly left the town in haste, but it was not till May 2nd that the attack was made. Callao, at this time, was strongly fortified. The batteries lay

in two groups, one to the south and one to the north. They mounted between forty and fifty smooth-bores, most of which were 32-pounder and 24-pounder, but there were, in addition, nine very heavy guns. Four were Armstrong 300-pounder rifles, placed in two turrets behind 10-inch armour, two guns in each turret, and five were Blakely 450-pounder rifles. All the guns, except the four Armstrongs, were mounted *en barbette*. The works were of sandbags, masonry, or *adobe*, sun-dried brick, that is to say.

At 10 a.m. the ships began to move in, but there was great delay in forming the vessels into two divisions. The first, with the *Numancia*, *Blanca*, and *Resolucion*, was to attack the southern batteries; the second, in which were the *Villa de Madrid*, *Berenguela*, and *Almanza*, the northern works: whilst the *Vincedora* shelled the two Peruvian ships, *Victoria* and *Loa*; the former a small monitor mounting one 64-pounder; the latter, a diminutive *Merrimac*, plated with railroad iron, and mounting two 68-pounders. The *Vincedora* was also to be ready to tow off disabled ships. About 11 o'clock the two divisions steamed slowly in towards the town, increasing their speed as they neared the works. When about 1500 yards from the Peruvian batteries the *Numancia* fired the first shot at 12.15. Immediately the forts on shore replied, and the other ships of the squadron engaged. Before 1 o'clock the *Villa de Madrid* was seen to be in difficulties. She unfurled her sails and made signals of distress, on which she was towed off by the *Vincedora*. A shot had pierced her steam-pipe, scalding thirteen men to death. About the same time a 450-lb. Blakely shell struck the *Berenguela* on her water-line, and exploding made a hole, twenty feet square, in her. She listed heavily and a cloud of steam escaped from her, whilst black dust flew from her side away from the battery, looking as though portions of the shell had passed right through her after traversing a coal bunker. She appeared to be in a sinking state, and the men on board her could be seen from the English and American ships baling out water, and trying to plug the hole

in her side. She succeeded, at last, in getting out of range. Having lost her two consorts of the second division, the *Almanza* joined the southern group. About 2.30, the ammunition on board the *Blanca* and *Resolucion* gave out, and they retired, leaving the *Numancia* and *Almanza* to face the batteries alone. The *Blanca* had twice been on fire in the neighbourhood of the magazine. At 4.30, the other two vessels ceased their fire and withdrew, and the Peruvians cannonaded them till they were out of range. The *Numancia* had been repeatedly hit by 32-pounder shot, but these, of course, were utterly useless against her armour. A 300-pounder projectile perforated her plating, driving in one plate two inches, but did not go through the backing. Another shell exploding near the bridge drove seven splinters into Admiral Nunez, but did not inflict very severe wounds. The Spanish loss in killed and wounded is not exactly known. It was supposed at the time to be about 200. The Peruvians suffered rather more heavily, having 300* killed and wounded, but several of these fell victims to a remarkable accident in La Mercede Fort. Here was a turret mounting two 300-pounder Armstrongs, and in the turret was the Peruvian War Minister with several officers, watching the crews of the two guns at work. A shell had been placed in the slings, and was being hoisted to the muzzle of one of the guns, when it slipped from the slings, fell upon the ground, and exploding, set fire to a quantity of powder in the turret. Señor Galvez, the War Minister, and twenty men, were killed or severely injured. Neither ships nor forts were much the worse for the reciprocal cannonade, but in the forts, two heavy guns were disabled by the guns running off the slides, through the compressors not being sufficiently set up.

The Spaniards having failed lamentably in their objects, after this withdrew from the Pacific, short of stores and

* Mr. Dutton, of H.M.S. *Shearwater*, in the "Illustrated London News," June 30th, 1866. Commodore Rodgers (U.S.N.) places it at eighty. "Revue Maritime," xvii., 637.

ammunition. Though they had established a base at the Chincha Islands, they had no facilities for repair there, and their ships were foul and in want of docking. The futility of their attempts upon Callao and Valparaiso points the obvious moral that a small squadron cannot reduce states to submission, but can only do damage. The number of ships was not sufficiently large to blockade the coast closely, and there was no landing force.

Whilst these events were happening on the Pacific coast, another struggle was raging in the heart of South America, in which, strangely enough, ships played a very considerable part. Rising in Brazil, the river Parana flows between the Republic of Paraguay and the territory of the Argentine Confederation, till it finally discharges its waters into the La Plata estuary. It is navigable for vessels of light draught far into the interior of Brazil, and receives numerous tributaries, of which the Paraguay river is also navigable, On the banks and waters of these two rivers was fought out a sanguinary war between Paraguay on the one side, and Brazil, the Argentine Confederation, and Uruguay, on the other.

In 1864, Marshal Lopez, the savage and murderous tyrant of Paraguay, provoked his neighbours to declare war upon him, and conclude a Triple Alliance, the aim of which was to destroy his despotism. This extraordinary man, whose history reads like a chapter from some romance, had conceived the idea of playing the part of a Napoleon in South America. He organised a large army of men half Spaniards, half Indians, but most indifferently armed. They fought with uniform desperation, because if they flinched or ran they were shot or decimated by Lopez with merciless severity. Their opponents had European arms and ironclads, but chiefly distinguished themselves by their cowardice and incapacity. There is a touch of humour in the fact that the more cowardly, the more incapable an allied commander approved himself, the more certain was he to be loaded with honours and to receive

promotion. Brazil even went so far as to christen her ships after the men who thus disgraced her reputation.* As her admirals were, so also were her sailors. For weeks a fleet of ironclads would bombard a fort mounting a single gun; the Brazilians would pour volleys of grape in all directions upon hearing the trembling of a leaf in the woods. They had a rare custom of firing indiscriminately upon friends and foes, and when a Paraguayan canoe once got alongside, they gave themselves up for lost and fled. The operations on land were of a character to match the deeds of the fleet. The Brazilians and Argentines invariably chose to attack the Paraguayan positions at their strongest points; they made it a point of honour never to pursue a beaten foe; and they delayed and dawdled whenever they got the chance, which was often. A war which should have been ended in five months was thus protracted five years, and Lopez was allowed to depopulate Paraguay.

Lopez opened the war by seizing a Brazilian steamer bound for Matto Grosso, in 1864. He followed up this lawless act by occupying the southern portion of the Brazilian province of Matto Grosso, and by marching troops into the Argentine town of Correntes. He had collected a squadron of nine indifferent river steamers. Of these, the *Tacuari* (6 guns), the *Paraguari* (4), the *Ygurei* (5), the *Ypora* (4), the *Olinda* (4), and the *Jejui* (2), were paddle-vessels; the *Salto Oriental* (4 guns), the *Ybera* (4), and the *Pirabebé* (1), were screw-vessels. The guns which this flotilla carried were smooth-bores, antiquated, and very often honeycombed with rust. The engineers were mostly Englishmen, who at a later date were shot or tortured to death by the master they served, in return for their courage and fidelity. Indeed, Paraguay during the war was an inferno, almost surpassing in its horrors the darkest imaginations of Dante.

The Brazilian fleet at the beginning of 1865 consisted of

* Barroso, Tamandaré.

forty wooden steamers, mounting about 250 guns. To these, twenty small ironclads were added in the course of the war. Half of them were casemate-ships of about 1500 tons, with 4½-inch armour ; * and carried each four 150-pounder and four 68-pounder Whitworth rifles. The other half were single and double-turret monitors, carrying two to four guns. Six single-turret river monitors, each with one 7-inch 150-pounder Whitworth in a fixed turret, completed the tale. The Argentine Confederation had no fleet at all, beyond two rotten river-steamers.

The Brazilian fleet left Rio early in 1865, and proceeded to Montevideo. No ardour for battle distinguished its officers and men ; indeed, from Admiral Tamandaré, its commander, downwards, the chief desire seemed to be to keep away as long as possible from the Paraguayans. On leaving Buenos Aires the demeanour of all became very subdued, as the foreign officers on the station made pointed bets in the hearing of the Brazilians, that neither officers nor ships would come back. It took this precious fleet forty-two days to cover the distance between Buenos Aires and the front, a matter of a few hundred miles easy navigation up the Parana. By June 10th, it was anchored near the mouth of the Riachuelo, a tributary of the Parana, and within reach of the Paraguayans. Though the enemy was known to be near, no precautions whatever were taken. The Brazilians had not grasped the fact that it was necessary to keep a look-out, and they did their best to be taken off their guard.

The Paraguayans placed a few guns in the woods where they could not be seen by their enemy, and prepared for an attack. The squadron of steamers, eight strong, was ordered by Lopez to drop down the river past the Brazilians, then to turn and attack them by boarding. This plan would abandon

* The armour, however, tapered to 2 inches at the extremities of most of the ships. The *Lima Barros* and *Bahia* were built by Messrs. Laird ; the *Colombo* and *Cabral* by Messrs. Rennie ; of the monitors several were built at Rio. They had a very low freeboard and a very light draught.

all chance of a surprise, but that was a trifle. No grappling-irons were, by some oversight, provided for the Paraguayan ships. On June 11th, early in the morning, they came down. The Brazilians were of course asleep, and every ship might have been carried, but disobedience to Lopez meant death. The Paraguayans accordingly ran past, waking their slumbering enemies, and giving them time to clear their ships. Then turning, they charged up stream. The Brazilian ships were nine in number, mounting between them fifty-nine guns. Their names were: the *Amazonas*, carrying Admiral Barroso's flag, *Jequitinhonha*, *Mearim*, *Belmonte*, *Parnahyba*, *Ipiranga*, *Iguatemi*, *Araguay*, and *Biberibé*. They were vastly better ships, and immeasurably better armed than their assailants, whom they should have blown out of the water in ten minutes. The Paraguayans ran close up to them, pouring in a hot fire from their smooth-bores. The *Jequitinhonha* was often hit, and trying to run away, went aground, where her crew abandoned her. The *Parnahyba* was boarded by the Paraguayans, and lost very heavily. Three of the enemy's steamers ran on board her, twenty-eight of her men were killed, and twenty jumped overboard and were drowned. The Paraguayan captain of the boarders was killed, however, and the *Amazonas* coming up, saved her by running into the *Paraguari* and driving her on to a bank. For this deed, Admiral Barroso deserves no credit; he was hiding in his cabin during the battle, and did not reappear till it was over. The *Belmonte* was hit repeatedly upon the water-line, and filling, had to be run aground. The Paraguayans suffered more severely. Early in the action, the *Jejui* had a shell through her boilers, and drifted past the Brazilians. She anchored below them, till they turned their guns upon her and sank her. The *Olinda* and *Salto* had shots through their boilers, became helpless, and drifted aground. The *Tacuari* had the packing round one of her boilers ripped up, yet the boiler itself was uninjured. The *Ygurei* had a 68-pounder shot in one boiler, but could just creep along with the other. The

G. Philip & Son.

Map XIV.

four Paraguayan steamers, which were still afloat, at last retired, whilst the Brazilians with seven superior vessels, let them get away, and followed at a safe distance, though two of the Paraguayan vessels were so badly damaged that Admiral Barroso had considerable difficulty in keeping behind them. For this brilliant victory, Barroso was made a Baron;* and the battle itself, in later days, was commemorated in the name of the Brazilian ironclad *Riachuelo*. The losses of the Paraguayans are put at 1000 men and four steamers, whilst the Brazilians are said to have lost besides two steamers, 300 men. The Paraguayans removed the lighter guns from the *Jequitinhonha*, which with true Brazilian carefulness, the victors had left unspiked. The conquerors followed up their success by retreating down the river to Goya, as the Paraguayans had placed a battery of 32-pounders in position at Bellavista, below the Riachuelo. The valiant Tamandaré arrived from Buenos Aires with large re-inforcements, but still there was inactivity. On one occasion,† however, four Brazilian ships ran up the Parana, and came in sight of the wreck of one of Lopez's armies crossing the Parana in small boats. All the Europeans present gave the Paraguayans up for lost. They had no ships to cover them, and were disorganised and disheartened by defeat. To the astonishment of all, the Brazilians turned tail, and ran down the river from soldiers in canoes and unarmed steamers!

At last, on March 21st, 1866, Tamandaré began to think of action. He had with him three casemate ironclads of *Merrimac* type, and one monitor, the *Bahia*, mounting two 150-pounder rifles in a single turret. On March 27th these ironclads, supported by numerous wooden ships, fought a desperate battle *with a single Paraguayan flat-boat, mounting one 8-inch smooth-bore*. On this occasion the inefficiency o

* In any other country, very justly remarks Mr. Thompson, he would have been court-martialled for cowardice. "War in Paraguay," 79.

† On the evacuation of Corrientes, the Paraguayans, Oct. 31st, 1865, crossed the Parana at Paso el Patria. It was then that this incident occurred.

the Brazilians was extraordinary. Shot and shell rained everywhere except in the neighbourhood of the flat-boat. She was sunk at last, but not till she had done much damage. One shot struck the Brazilian ironclad *Tamandaré* on a port-sill, and flew into pieces, which entering the casemate, killed twenty-three men and wounded fifteen.* After this it will not startle us to hear that a fort at Itaipuru, near the junction of the Parana and Paraguay, delayed Tamandaré weeks, though it only mounted one gun.† The ships bombarded this work with tremendous energy, but, as was invariably the case in their operations of this kind, failed to hit a gun—the gun, we should say, in this instance—or to hurt anyone. They, however, kept the Paraguayans supplied with iron, which was running very low, and their own shells were melted down and cast into cannon, or used in weapons which had been captured from them, against them.

Itaipuru fell in the course of time, and its one gun was removed by the Paraguayans. The allied army had now to operate in a swampy stretch of country, covered with dense jungle, against the Paraguayan fortress of Humaïta, which commanded the Parana. There were advanced works at Curupaity and Curuzu below, and at Timbo above, which should have easily been taken by the fleet, acting in combination with the army. Instead there were eleven months of futile bombarding, whilst the Paraguayans, for their part, sent down fire-rafts and floating torpedoes upon their enemy. On September 1st, 1866, there was a hot action with the battery at Curuzu, which mounted one 8-inch and two 32-pounder smooth-bores, besides ten smaller guns. The *Rio Janeiro* a casemate ironclad, had two 68-pounder shot through her 4-inch armour, and striking a Paraguayan torpedo, sank with her captain and the greater part of her crew. The *Ivahy* was disabled by a shot through her boilers. On September 2nd

* The *Barroso*, a Brazilian ironclad, had four holes through her plating, and one gun disabled.

† A 12-pounder rifle.

and 3rd, the bombardment continued, though the very smallest effect was produced by it, and finally a strong force, landing, turned and captured the work.

Next Curupaity was attacked. Here forty-seven guns and two rocket-tubes were in position, but only thirteen bore upon the river. The bombardment began on September 22nd, and continued for weeks. Some days the Brazilians would fire 4000 shot and shell into the work, without killing a man, or disabling a gun. Fortunately for Brazil, Tamandaré was recalled in December, 1866, and replaced by Admiral Ignacio, who had a little more activity and enterprise, else the Brazilian fleet might have wasted ammunition on Curupaity for a generation. On August 15th, 1867, the new comer, with nine ironclads, passed the works at Curupaity.* The Brazilian ships sustained much damage, and one shot entering one of the *Tamandaré's* port-holes—the second time that the same casualty happened to the same ship—wounded her commander, and killed or injured fifteen men. Having passed the Paraguayan guns, the Brazilians repaired their injured ships, and waited, whilst the Paraguayans moved their weapons from Curupaity higher up the stream. Thus the Brazilians twice passed the same guns, mounted, it is true, in different places.

Passing Humaïta on February 18th, 1868, Ignacio led the *Bahia*, *Barroso*, and *Tamandaré*—each of which had had a small monitor† lashed to her whilst running by the Paraguayan forts—up the river, against the capital, Asuncion. In this action with the batteries, the small monitor, *Alagoas*, received 180 hits, and the *Tamandaré*, 120, which started plates, and injured them considerably. The Brazilians, in spite of their injuries, went up to Asuncion, and might have taken it, but, as usual, only looked and came away. A Brazilian force, however, was planted above Humaïta at Tayi, so that there

* The ships engaged were the *Brazil*, *Barros*, *Tamandaré*, *Colombo*, *Cabral*, *Barroso*, *Herbal*, *Silvado*, *Lima Barros*, *Lindoya*. All except the last named were armoured.

† The names of the monitors were the *Alagoas*, *Para*, and *Rio Grande*.

was some result. On March 1st, a singularly daring attack was made by the Paraguayans upon the Brazilian ironclads near Humaïta. Twenty-four canoes, each carrying twelve Paraguayans armed with sabres and hand-grenades, made the attempt. Two ironclads, the *Herbal* and *Cabral*, were boarded, and the greater part of their crews, who were found asleep on deck, were killed. The rest shut themselves up inside the ships, and two other ironclads, hearing the firing, came up and swept the decks of the boarded ships with grape and shells, killing Brazilians and Paraguayans alike, but saving the ships from capture. On July 10th, a precisely similar attempt was made to surprise the *Barroso* and *Rio Grande*. As before, there were twenty-four canoes. The Paraguayans all but succeeded, and had they attacked both vessels simultaneously, there is little doubt that they would have carried them. The *Rio Grande* was boarded first; the greater part of the crew were killed, and the remnant shut themselves up inside. Whilst the Paraguayans were trying to force open the hatches, the *Barroso* came up and killed all on the *Rio Grande's* deck with grape.

After this, all naval interest in the war ceases. On July 24th, Humaïta was abandoned by the Paraguayans, and Lopez retreated upon the lines of Pikysyry, between Angostura and Lake Ypora.* These were turned by the fleet, and a body of troops landed in their rear. A disastrous defeat was inflicted upon Lopez, who was driven to the wild country in the north of Paraguay. Here, on the banks of the Aquidaban, the Brazilian cavalry overtook him on March 1st, 1870, and, abandoned by his soldiers, whilst endeavouring to escape, he was killed by a Brazilian trooper.

* The Brazilian ironclads repeatedly ran past two batteries at this place, mounting in all sixteen 68-pounder smooth-bores and two 150-pounder rifles. They lost a few men from splinters, and on the 26th of November, 1869, the *Brasil* was a good deal damaged.

CHAPTER XII.

Naval Events of the Franco-German War.

July 15th.—December, 1870.

The declaration of war with Germany on July 15th, 1870, found the French navy little better prepared for a struggle than the French army. In each case there was a fine and powerful force on paper, but in each case want of forethought and organisation rendered that force far less formidable than it appeared. Unfortunately for France, she had not considered or carefully provided for the peculiar conditions of a naval war with Germany. Her fleet was vastly superior in numbers, the slow growth of generations, and in the decade before the war she had led the way by being the first power to build sea-going ironclads. But as a means to an end, and that end the attack upon the German coast line, it was not an effective instrument, though it may have been admirably adapted for a struggle with England upon the high seas.

The "war of coasts" differs essentially in its methods and appliances from the "war of squadrons." In the latter, ships have to meet ships, and seaworthiness is the first consideration, whilst defensive and offensive power are limited by displacement. To repeat once more a true but hackneyed saying, the normal ship is a compromise and has to meet compromises like herself. Excessive attention to one point—speed, armour, gun power—involves either a corresponding sacrifice of the other requisites, or a great increase in size. Roughly speaking then, ships of the same date and the same size are upon an equal footing; if better in one direction,

they will be worse in others. But when ships are pitted against coast defences, on the one side are limitations, and on the other none. The fort has not movement in space like the ship, but then it has not to be sustained upon the water. It may be of any size; of unlimited offensive and defensive force. In practice, the cost of a work is a limitation, but in the nature of things, there is no reason why batteries of 50-ton guns should not be mounted behind four feet of armour with an unlimited ammunition supply. The normal battery is strictly proportioned to the strength of the attack which it will have to sustain. It is impossible to design a ship which shall be able to encounter forts with success, and which shall none the less remain a ship. Ericsson all but achieved the feat in his monitors. They were invulnerable, drew little water, and could be handled, with fair ease, in a confined space. At the same time, they carried too few guns to make much impression upon land forts.

For the "war of coasts," the requisites may be stated as follows. First, the draught must be light, enabling the vessel to approach the shore closely, and to operate in shallow water. Second, the ship must be invulnerable to the guns mounted in the coast defences to be attacked. Third, it must bring to bear a battery of numerous guns. In vessels of such a nature, the French navy was very deficient. It had no light-draught gunboats whose diminutive size should confer upon them invulnerability; it had no mortar-boats or lighters such as were found so useful in the Crimean War; it had not one single howitzer or high-angle-fire gun mounted; it wanted vessels of the monitor class; and its only light-draught ironclads were the obsolete floating batteries of the *Opiniâtre* type, drawing ten feet of water, yet protected by armour too thin and weak to resist the guns of 1870; and the two American ships, *Rochambeau* and *Onondaga*. The former of these was a gigantic *Merrimac*, having like that ship a low freeboard forward and aft, with a high central casemate, in which were mounted four 27-centimètre and ten 24-centi-

mètre guns, firing shot of 476lbs. and 317lbs respectively. Her draught was only fifteen feet. The *Onondaga* was a typical monitor with 12¾ inches of laminated plating upon her two turrets and four 24-centimètre guns, but no use whatever was made of her. There were three French-built coast service vessels, the *Cerbère*, *Bouledogue*, and *Taureau*, but the two first drew twenty feet, and the last, eighteen feet, besides which they carried only one or two guns each.

The sea-going ironclads of France were a fine and homogeneous fleet. In commission at the beginning of the war were the *Magnanime*,* *Provence*,* *Heroïne*,* *Couronne*,† *Montcalm*,‡ and *Atalante*,‡ forming with the despatch-boat *Renard*, the Mediterranean squadron under Vice-Admiral Fourichon. This force was accustomed to manœuvring and evolutionary exercises, and was thoroughly trained. In the Levant was the ironclad *Belliqueuse*, detached from Fourichon's squadron. In the Channel were the *Gauloise*,* *Flandre*,* and *Thétis*,‡ under Rear-Admiral Dieudonné, whilst the *Alma* was on her way out to China. In reserve or just completing were the *Magenta*,§ *Solferino*,‖ *Ocean*, *Guyenne*,* *Revanche*,* *Savoie*,* *Surveillante*,* *Gloire*,¶ *Invincible*,¶ *Valeureuse*,* *Armide*,** *Jeanne d'Arc*.** They were classed as frigates, or corvettes, as the designation then was, were marked by the high freeboard which France has always given her sea-going battleships, had a fair speed ranging from twelve to fourteen knots, and carried armour from 4½ inches to 8 inches thick upon their water-line and batteries. The older vessels had been re-armed with heavier guns a short time before the war. The main armament of the fleet was composed of 27-centimètre, 24-centimètre, 19-centi-

* Type *Magnanime*
† „ *Couronne*
‡ „ *Alma*
§ „ *Magenta*
‖ „ *Solferino*
¶ „ *Gloire*
} *See* Table X. for particulars.

** *See* Table for details.

mètre, and 16-centimètre guns. The grand total of French ironclads, sea-going, coast and harbour defence vessels, all being included, was forty-nine ships. In addition, eleven were on the stocks.

To meet a German fleet at sea, nothing could have been better than this force, but the great draught of the ironclads, which was in no case less than twenty-three feet, rendered them absolutely useless for work in shallow water. From east to west the German coast is difficult to approach, and fenced with shoals and sand-banks which embarrass navigation, whilst they facilitate defence. No attention had been paid by France to the very important consideration of draught, though in this remissness she was sinning in distinguished company. Some time before the war a French naval officer of distinction had earnestly warned the French ministry of the folly of building only ships which were by their size rendered unable to operate in shallow seas. As the battle of dimensions still rages his words may be recalled. "I do not urge what Lalande has rightly named 'Naval dust,'* vessels only good to furnish commands, and useless for service at sea. I want above all to be able to fight upon the high seas; to be able to occupy that great road which leads everywhere; but I protest against constructions whose size forbids their access to many coasts. We must remember the scanty depth which marks so many strategic basins. If our *colossi* cannot enter these basins or operate upon them this is a serious defect which will reduce us to impotence under certain circumstances." The "certain circumstances" which the writer had in mind were, beyond doubt, those of a war with Germany, and his prediction of impotence was strikingly fulfilled.

Of unarmoured steamers other than ironclads or paddle-vessels France had 248, a miscellaneous congeries of corvettes, frigates, old line-of-battle ships, despatch-boats, and gun-boats. The best of these were a number of barbette corvettes of fair

* *Poussière navale.*

speed, and about 1500 to 1800 tons displacement, armed with the 19-centimètre and 16-centimètre gun. The despatch-boats or sloops were weak and slow vessels even for their day, whilst the gunboats were little better than "naval dust." There were no really fast cruisers approximating to the modern type in either fleet. The total of vessels, other than ironclads, in commission in 1870, was 188, most of which were in Europe, as the foreign squadrons were not large.* Cruising off the Antilles, La Plata, Bourbon, West Africa, and in the South Sea, France had half-a-dozen wooden frigates or corvettes. Reinforcements were sent out to each station on the outbreak of war.

The German fleet was the creation of Prussia, and could not be compared with the French. It was virtually the growth of four years, since it was not till 1848 that Prussia had a fleet at all, and not till 1866 that she began to give serious attention to the sea. There were five ironclads, the *König Wilhelm, Prinz Friedrich Karl, Kronprinz, Arminius,* and *Prinz Adalbert,* mounting the 24-centimètre, 21-centimètre, and 17-centimètre breech-loading Krupp. Of these the first was probably more than a match for any single French ironclad. She carried no less than twenty-three heavy guns, had a speed of over 14½ knots, and was protected by 8 inches of iron. The *Prinz Friedrich Karl* and *Kronprinz* were smaller broadside vessels. The *Arminius* and *Adalbert* were coast defence monitors, thinly armoured and lightly armed, and were very defective in the matter of speed. To these must be added twenty gunboats, two corvettes, one despatch-boat, and one royal yacht, all in European waters.† On the Japanese

* With 1210 officers and 22,581 sailors. Bouët, p. 20. The total peace strength of the fleet was 28,000 men.

† The official figures, including non-effective ships and ships on foreign stations, were: Ironclad frigates, three; ironclad vessels, two; spar-decked corvettes five; flush-decked corvettes, four; ships of the line, one; despatch-boats, two; sailing frigates, three; sailing brigs, four; royal yacht, one; first-class gunboats, eight; second-class gunboats, fourteen. Sailors, marines, &c., 6204.

coast were the vessels *Hertha* and *Medusa*; on the West African station the *Arcona*; and in the West Indies the *Meteor*. The German naval ports were Wilhelmshaven and Kiel. The former had been acquired by Prussia from Oldenburg; it stands upon the western side of the narrow entrance to the Jahde, and upon it, from first to last, the sum of £1,500,000 was expended. The fortifications were by no means complete in July, 1870, though the splendid basin, for the use of the fleet, had been opened by King William in 1869. A certain number of 24-centimètre guns were placed in position as quickly as possible, when the war came, and every effort was made to render the harbour secure. It is extremely difficult of approach, as the deep water channel, which leads to it, is very narrow and intricate from the Island of Wangeroog onwards. Moreover, the basin at Wilhelmshaven could only be entered at high tide by large ironclads.

The fortress of Kiel stands upon the fiord of that name, and was acquired by Prussia in 1864. The fiord is perhaps the finest harbour in the Baltic, and can effectually shelter a large fleet. It is a long, narrow indentation running south, and measures eleven miles from the Bulk light to its extreme head above Kiel. As far as Friedrichsort it is an open bay, but at this point it narrows to a width of only 1200 yards. After this comes a wider reach, and then a second narrow strait below the Dursternbrock light. Just above this is the military harbour and dockyard at Ellerbeck, distant six miles from Friedrichsort. The very formidable works in progress to defend the fiord were not completed in July, though one very heavy gun was even then in position, a 50-ton Krupp breech-loader, firing a shot which weighed 1200lbs. Other guns were in position at Möltenort and Labö, whilst batteries were either completed or in course of erection along both shores of the Friedrichsort narrows. The hills round the bay give exceptional opportunities for a plunging fire, as they rise to a height of 100 feet, and the

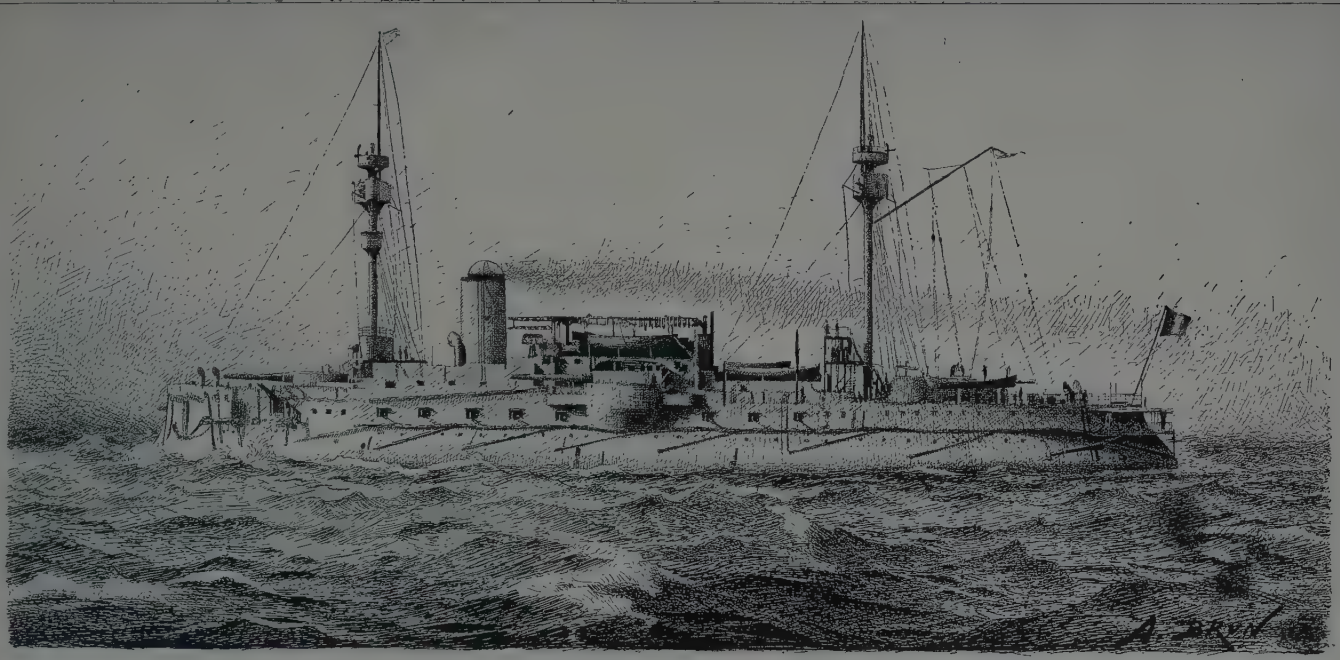


PLATE XII.

THE FRENCH BATTLESHIP MARCEAU.

See ii., 263.

cliffs, on the water line, are, in places, sixty feet high. A boom was carried across the fiord at Friedrichsort, and torpedoes were liberally sown in the fairway, whilst an old vessel was kept ready to be taken out and sunk in the channel at the shortest notice.

The accepted French strategy in a war with Germany was to land an expeditionary corps in the north, when it was hoped that the Danes, who were still sore from their defeat in the war of 1864, would join their forces. As Denmark could dispose of 40,000 men or more, her alliance would greatly strengthen the French, whilst it would give France a secure base of operations, which would otherwise be wanting. Early in the war the French Ministry had such an expedition in mind. A large force of marine infantry was concentrated at Cherbourg, and steamers to transport it were taken over from the great French shipping companies. Careful study had been made beforehand of the requirements of a Baltic expedition; maps had been provided; the ships to be employed fixed; the troops to embark specified. Yet when it came to the crucial test of war, nothing was prepared, nothing was ready, and a promising scheme was rendered impossible by bad organisation.

War had been imminent on July 8th; but there had been little activity in the arsenals. On the 10th, it was practically certain that there would be war, but still there was delay. In fact, the naval preparations did not begin till July 14th, and only on July 15th, was a naval credit of 16,000,000 francs voted by the Chamber. The Mediterranean squadron and the Channel squadron were without reinforcements, and there was no sign that anyone realised the value of promptness. Then came days of feverish activity. Cherbourg was selected as the port from which the expedition should start, but it was found that the store-houses were empty. Though the resources of the *inscription maritime* were boundless, and though there was no real want of men, sailors to man the fleet could not be collected

in a few hours.* The ships themselves were not ready, and wanted numerous small touches. Seven days went by before any commander was appointed; there was no one in charge at Cherbourg, and no one responsible. Then suddenly, on July 22nd, Napoleon selected Vice-Admiral Bouët Willaumez, an officer of distinguished courage and ability, whose hard fate it was to achieve nothing. He was positively promised a large fleet; there were to be fourteen ironclads, besides smaller vessels in the advance squadron, whilst Vice-Admiral La Roncière Le Noury was to follow him with a flotilla of transports, floating batteries, coast defence vessels, and gunboats, conveying the 40,000 troops who were to serve under Bourbaki. Bouët at once hurried to Cherbourg, where he was distressed to find great disorder prevailing. His fourteen ironclads were in the air; instead, there was the diminutive Channel squadron of three ships. Sixteen thousand sailors and 800 officers were lacking. Only a man of energy and perseverance could have accomplished what the vice-admiral did. He collected seven ironclads and one despatch-vessel, and put to sea on the 24th, though the shipwrights and dockyard hands were at work upon his vessels to the last minute. His flag was hoisted on board the *Surveillante*; on board the *Gauloise* was Rear-Admiral Dieudonné, his second in command; and the other ironclads were the *Guyenne*, *Flandre*, *Océan*, *Thétis*, and *Jean d'Arc*. Bouët had hopes of meeting a Prussian squadron which was supposed to be cruising in the Channel, and though he considered his ship, the *Surveillante*, no match for the *König Wilhelm*, he was determined to use the ram to effect what his weaker guns could not achieve.†

* The ships ready to be manned in the various ports were fourteen armoured frigates or corvettes; fifteen coast or harbour-service vessels; four screw corvettes; sixteen avisos; and thirty transports.

† Bouët's instructions, dated July 23rd, were as follows: "You will proceed first towards the Sound, whence you will detach the *Thétis* to Copenhagen, then by night you will return to the Jahde, to blockade the Prussian squadron

The Prussian squadron, consisting of the *König Wilhelm*, *Kronprinz*, *Friedrich Karl*, and *Adalbert*, had left Plymouth on the 10th for Fayal, but returning on the 13th, put in for a few hours to learn the news, and then proceeded up the Channel, steaming straight for Wilhelmshaven. This place was reached on the 16th. The vessels were not in good order; the *König Wilhelm* had never been docked since her purchase by Prussia, and was extremely foul; the *Friedrich Karl* had been fitted with a new screw in England, which did not drive her at her normal speed; the *Adalbert* was in bad condition and unseaworthy. Still, had these four ships met the three ironclads of the French Channel squadron, there is no doubt that they could have defeated them. They did not, however, attempt to look for the French, but considered, in the face of their enemy's overwhelming strength, discretion better than valour.

As he did not come across the Germans, Bouët proceeded up the Channel and stood in towards the Jahde, where he hoped to find Prince Adalbert, the Prussian admiral, and crush him. On July 26th, the lights and buoys were still in place at Wilhelmshaven; no torpedoes had as yet been placed in position; and the fortifications were, as we have seen, unfinished. But there was great difficulty in obtaining pilots, and no French officer knew these difficult waters; apparently, too, there was not a proper supply of charts on board. England had forbidden English pilots to act for either belligerent, and Germans, of course, were not to be had.* The heavy draught of the French ships kept them some distance from the coast; there was no flotilla of cruisers, gunboats, and torpedo-boats, to watch the enemy. Coal was already running short, for the ships had not large bunkers,†

there. When the other ships are dispatched to you, you will leave one division before the Jahde under Rear-Admiral Dieudonné, and you will proceed with the other to the Baltic."

* Danish pilots could, however, be obtained. Staff History, I., i., 79.

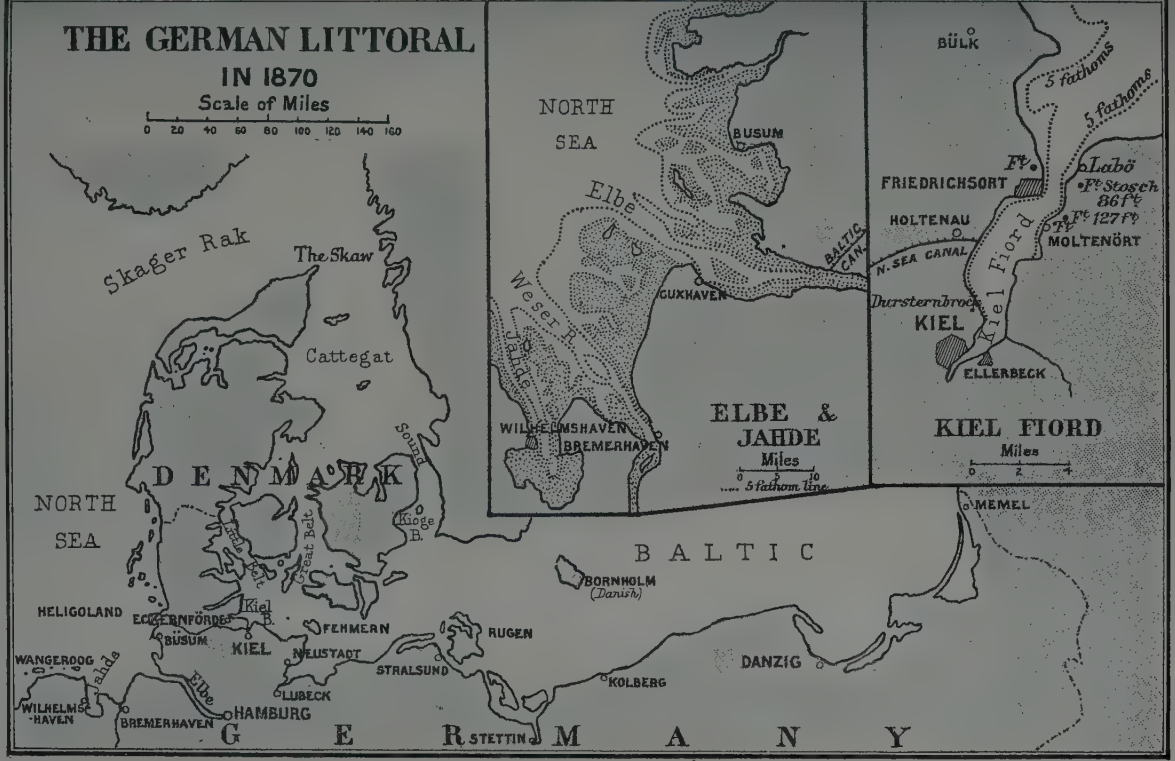
† The largest supply carried upon any of them was sufficient for ten days, steaming at ten knots.

and used the old type of engine which consumes far more than the present pattern. Bouët was therefore compelled to make for a Danish port, where he received despatches ordering him to enter the Baltic. A second despatch urged him to choose a base where he could provision and coal his ships without infringing the neutrality of Denmark; and he was further exhorted to watch the Baltic, the Elbe, and the Jahde at once; to place a powerful squadron off Kiel, and another off Wilhelmshaven, and all this with seven ships. Such absurd and impracticable instructions, throw a signal light upon the intelligence of the naval staff at Paris. Finally, after a telegram to the Minister, the admiral was ordered to enter the Baltic. He obtained pilots, and proceeded to reconnoitre Kiel and the German coast, a task of some difficulty, as the lights had now been extinguished, and the buoys removed or misplaced.

The arrival of these ships, if it did not seal every German port, at least stopped trade. This partial and imperfect observation, for it can be scarcely called a blockade, is calculated to have cost the Germans £200,000 a day in trade lost. This may be an exaggeration, and we may doubt how far Germany, with so great a proportion of her able-bodied males fighting at the front or enrolled in the Landwehr, could have continued to export goods, had there been no blockade. But German shipping vanished from the sea, and what vessels went to and fro, had to pay exorbitant insurance rates. The economic effect was thus considerable, though as Germany has land upon two sides in addition to her frontier towards France, she could import and export freely overland, and the blockade did not press upon her as it did upon the Southern States in 1864-5. The actual captures of German ships were eighty in number, and the direct loss £430,000.*

Meantime, what had happened to the Mediterranean squadron, and to the hosts of ships which were to have

* "Times," June 3, 1871.



G. Philip & Son.

MAP XV.

followed Bouët? The history of the Mediterranean fleet is interesting from the strategical point of view. During the first few days after the declaration of war, the French troops in Algeria were being busily conveyed to Toulon and Marseilles. The whereabouts of the Prussian squadron, whose presence at Plymouth has been noticed, was unknown. It was possible that it might be steaming south to intercept the line of communication between Toulon and Algiers, and, therefore, it was judged expedient to detain the Mediterranean fleet at Oran, watching the Straits of Gibraltar. As no Germans appeared, and it became certain that Prince Adalbert was at Wilhelmshaven, Admiral Fourichon, with his ships, was ordered round to Brest, which place he reached at the end of July. A suspected alliance between Spain and Germany may have contributed to his delay. On August 8th he left for the North Sea with the ironclads, *Magnanime, Provence, Heroine, Couronne, Valeureuse, Revanche, Invincible,* and *Atalante,* besides four smaller vessels.* In the Mediterranean, to protect the line of communication, Toulon-Algiers, two ironclad frigates, and the *Belliqueuse* remained. A third squadron was collected at Cherbourg to protect that port, but the expeditionary force was now wanted in other directions. In quick succession the defeats of Weissembourg, Wörth, and Forbach, early in August, opened France to the German advance, and the marine infantry divisions could no longer be spared for the Baltic.

Fourichon was off Heligoland on August 11th. He found himself upon a sandy and difficult coast, without pilots and without light-draught vessels. Beyond blockading he could do nothing, and to maintain the blockade was difficult enough. England would not permit him to use Heligoland as a coaling station, and the fuel had to be transferred to his ironclads on the open sea. This is a difficult operation in smooth and sheltered water: it is not only difficult but dangerous upon a

* *Decrés, Cosmao, Chateau-Renaud, Renard.*

stormy sea, such as that on which he was cruising. That he accomplished it with success is no small tribute to the French officers and sailors. He had no friendly port at hand into which to convey disabled vessels. The western coast of Denmark does not possess a single harbour, and at Heligoland there is only a measure of shelter to leeward of the island. Towards the end of August there was a strong west wind which rendered coaling more difficult than ever. Early in September the weather became worse. A succession of gales from the south-west and north-west obliged the ships to steam out to sea. When the wind fell, some of the ironclads were exceedingly short of coal, and it became absolutely necessary to return to France. Her fuel would only carry the *Invincible* as far as Dunkirk, and thither she had to run. Had the wind continued longer the supply of coal would have failed, and the position of the French fleet, upon a dangerous and hostile coast, would have become extremely critical. Proceeding to Cherbourg, Fourichon received the intelligence that the Empire had fallen, and that he had been appointed minister of marine. His ships landed a large portion of their skilled gunners to defend Paris, which was threatened by the Germans after Sedan. Henceforward they cruised with diminished crews in two squadrons, one off Dunkirk and the other off the Jahde, relieving each other in turn.

Meantime Bouët's squadron in the Baltic had received no reinforcements. It could do little or nothing against Kiel, which was far too strongly defended to be assailed by any but a very powerful fleet. After the French reverses, instructions were sent to the admiral to bombard open towns, which he had been at first instructed to spare. But of open towns there was only one, Kolberg, at which the French could get. Thither he proceeded to execute what he, for he was a humane man, considered a detestable mission. Kolberg was a watering-place, defenceless and exposed to any attack; it was crowded with inoffensive non-combatants, whose only sin was that they were of German nationality. Happily, he

was saved by chance from the perpetration of an act which should be repudiated by all civilised nations, since the news reached him that the three Prussian ironclads had left the Jahde, and were threatening his communication. In consequence he steamed to the Great Belt and awaited their arrival. As they were in fact closely blockaded by Admiral Fourichon they never came.

Reinforced by the *Rochambeau* and the *Armide*,* he prepared once more to attack Kolberg, and again, not perhaps altogether unwillingly, was prevented from executing his orders, by a violent storm. Earlier in the war, on July 27th, the monitor *Arminius*, had succeeded in stealing round by the Sound from Kiel to the Elbe, in spite of the careful watch maintained. Her light draught enabled her to hug the Swedish coast, and rendered it impossible for the French to attack her in territorial waters, even had they discovered her. The *Elizabeth*, which had also attempted to pass from the Baltic to the North Sea, was compelled to return to Kiel.

Till September 29th, when Bouët returned to France, this desultory blockade continued. There was throughout no incident of importance, except, on August 22nd, for an attempt made by the German corvette *Nymphe* to surprise the ironclads off Dantzic. This attempt was easily defeated by the French corvette *Thétis*. The Germans, on their part, as Kiel, Lubeck, Neustadt, Stettin, Stralsund, and Rügen were declared to be blockaded, retaliated by offering 50,000 thalers for the destruction of a French frigate, and 30,000 for the destruction of a corvette. The blockade prevented regular trade, but it did not hinder German ships from stealing along the coast. The German warships in the Baltic took good care not to expose themselves to defeat.

The blockade of the North Sea coast, was conducted in turn by Admirals de Gueydon and Penhoat, till, the *Surveillante* having lost her rudder and all but gone ashore, the ironclads were withdrawn. The stormy winter tried the

* The *Océan* and *Flandre* were, however, withdrawn.

heavy ships, and on each cruise minor misadventures befell them. From December to the close of the war the blockade was left to the lighter and faster unarmoured ships, whilst the two ironclad squadrons cruised, the one off Dunkirk, the other in the Channel to the South of Ireland. The Germans, advancing steadily on land, had occupied Havre, Dieppe, and Rouen, and to prevent them from using these places as bases, and from importing stores through them, these French towns were blockaded by the French ironclads, which, on a friendly coast with bases near at hand, found the task an easier one than on the North Sea. Nevertheless, it was a singular position. The Germans troubled the light French ships as little as they had troubled the ironclads.

The disposition of the German fleet during the blockade was as follows: in the Jahde were the ironclads *König Wilhelm*, *Kronprinz*, and *Friedrich Karl*, which were usually stationed near the island of Wangeroog at the mouth of the channel. Three gunboats were retained at Wilhelmshaven. In the Elbe were the turret-ships *Adalbert* and *Arminius* with three gunboats. At Büsum was one gunboat. Moving between the Elbe and Kiel by the Eider canal were seven gunboats. At Kiel was the corvette *Elizabeth*, the despatch-boat *Adler*, and three gunboats. At Stralsund was the *Grille* and three gunboats, whilst the corvette *Nymphe* lay at Dantzic. Outside European waters the *Hertha* and *Medusa* were blockaded on the Japanese coast, whilst the *Arcona* was held under observation by the French at the Azores. One ship, the *Augusta*, escaped from the Elbe during the blockade of the North Sea coast, and appearing in the Bay of Biscay, captured three French vessels, the *Max*, off Brest, the *St. Marc* and *Réné Adolphe*, off the Gironde. She ended by being blockaded at Vigo by two French ships, one of which lay in the harbour alongside her, whilst the other cruised off the port. The twenty-four hours law rendered the presence of two ships necessary to hold her fast.

One encounter only took place between ships. In the West Indies was, as has been said, the German gun-boat *Meteor*, armed with one 15-centimètre and two 12-centimètre guns, and manned by sixty-four officers and sailors. The French gunboat *Bouvet*, carrying one 16-centimètre and four 12-centimètre guns, with a crew of eighty-five men, was lying in the harbour of Havana, when on November 7th, the *Meteor* steamed in and anchored. Having conveyed to the German captain the intelligence that he was ready to fight him, the French commander, Franquet, put out to sea at eight o'clock on November 8th. Exactly twenty-four hours later, to comply with the requirements of the twenty-four hours rule, the German ship followed. She was slower and more feebly armed than her enemy, but had, according to the French, a stouter hull. Outside territorial waters, the *Bouvet* was waiting for her. The weather was cloudy, and there was a rising wind from the north-east. At about 2.30 p.m., the *Meteor* opened fire at a range of 1200 yards, and then for two hours the ships fought continuously, circling round and round, but doing each other uncommonly little injury. At last, the French captain decided to ram, and charged the *Meteor* at his highest speed. Though running ten or eleven knots, he struck his blow at an angle of forty-five degrees, and consequently produced little impression. The shock brought down the *Meteor's* main and mizzenmast, and a portion of the rigging fouled her screw; the Germans had intended to board the *Bouvet*, but the two vessels were only in contact for a second. The *Bouvet* was preparing to ram a second time, when a shot perforated her boiler. On this, she hoisted sail and retired, says the German account, whilst the *Meteor* endeavoured to pursue her. The Spanish captain, however, who had come out with his ship to see that there was no violation of neutral waters, stopped all further attempts to engage, by informing the combatants that they were now in Spanish waters. The loss of the *Bouvet* was ten men killed or wounded, whilst the *Meteor* had two killed.

The French navy thus performed no brilliant deeds of arms at sea. On land, Admiral Jauréguiberry, the sailors, and the marine infantry, won great distinction, showing that the *personnel* of the fleet wanted neither courage nor enterprise. But on the water, there was little but inactivity and discouragement. Paris, and France generally, was greatly disappointed, and inclined to question the value of the services rendered by the fleet. The idea that "something should be done," which had sent out Persano to Lissa, found favour on the Boulevards, and when nothing was done, there was not a little indignation. It will be not without interest to consider what actually were the services of the fleet, and to ask whether it could, with success, have attempted more.

In the first place, French commerce was perfectly protected, whilst any German ships that ventured to sea, did so only at great risk. The only instance of any effort to plunder French shipping, was the appearance of the *Augusta*, and she met with very small success. France was enabled to import arms and ammunition from abroad without any interference, and could thus make up for the shortcomings of her own arsenals. Her line of communication between Toulon and Algeria was never threatened. In the second place, the mere menace of a French expedition to the Baltic, detained the 1st, 2nd, 9th, and 10th Prussian Corps in Germany up to July 27th, when their places were taken by four divisions,* as it became evident that Denmark would not join France. Although after a few weeks of war, these troops were diverted to the front, the naval strength of France must none the less receive credit for neutralising 120,000 trained soldiers at a time when their absence would have been cruelly felt, had France possessed an actual strength corresponding to her paper forces. In the third place, the German coast was, if not strictly blockaded, held under observation without any misadventure to the French; and, though isolated ships like the

* The 17th Infantry Division, 1st, 2nd, and Guard Landwehr. The total force available for coast defence after July 27th, was about 150,000 men.

PLATE XIII. THE FRENCH BATTLEHIP MAGENTA.

See ii., 263.

Arminius and *Augusta* were able to elude the French, this was only what repeated incidents in the American Civil War had shown to be possible with a strict and vigilant blockade upon a coast where the blockaders had bases.

Let us turn now to the hostile critics of the fleet, and see the course of action which they recommended. As soon as Denmark's neutrality became certain, after Wörth, Gravelotte, and Sedan, there were grave difficulties in the way of an expeditionary force. Supposing the men could have been spared, where were they to land? A force of 40,000 men needs a great assemblage of transports, and there were few unfortified bays in the Baltic which could have contained such a flotilla. When ashore, the French would have found themselves in an enemy's country, which was covered with railways and telegraphs, giving ready facilities for the concentration of an overwhelming German force against them. To land or to embark in the face of a hostile force, is a difficult and dangerous operation, especially where the large ships of a squadron cannot lie close in and cover the soldiers with their guns. Torpedoes, batteries, and misplaced buoys are elements of defence, which render such an undertaking very risky, whilst the telegraph precludes surprise. The unopposed landing of the allies in the Crimea, had led the French people to minimise the difficulties which had to be faced. Of course, the alliance of Denmark would have altogether changed the position, but as things were, an expedition would have courted disaster. So those who clamoured for the despatch of a corps to the Baltic, could hardly have understood for what they were asking.

Again, it was complained that whilst Farragut and the Northern admirals had never recoiled before forts and batteries, the French admirals were content to look at Kiel, and Wilhelmshaven, and do nothing. But Farragut and his brother commanders had powerful military forces behind them. Dupont's attack upon Port Royal; the forcing of the New Orleans' forts; and the passage

into Mobile Bay would have been mere waste of life, and unproductive of result, without a landing-force. We have seen how Farragut's ships could not hold the Mississippi banks when they were not backed by the army, and how, their excursions to Vicksburg had little issue through want of troops. And what were the French ships to do at Kiel and Wilhelmshaven? Their draught was greatly against them; there was no flotilla of monitors and gunboats to operate in the shoals; there were no floating batteries; and there were booms, torpedoes, and heavy guns to be faced. To gain access to Kiel, the ships must have passed up the fiord under the plunging fire of the German works. Experience had shown in the American War that ships, if they can run past forts, can rarely silence them. The French would thus have left the guns behind them. Arrived at the inmost recess of the fiord, there was only the town and dockyard to be destroyed, in the face of a military force which could have withstood the attack of a landing-party from the ironclads. To destroy the town by bombardment, would have required a great expenditure of ammunition, thus diminishing the small amount left after the passage of the forts. And, when the town had been destroyed, the fleet must a second time run past the enemy's works. A slight injury to steering-gear or engines would have exposed the ships to capture, or shipwreck upon a hostile coast. This risk had to be faced for what gain? Not a single vessel of war would have been found in the fiord, except the *Elizabeth*, for the gun-boats could retire to the Eider Canal, and her capture or destruction would not have atoned for the loss of one French ironclad. To deal purposeless blows at enormous risk is no sane strategy, and had Nelson, or Farragut, been present in person before Kiel, we may be certain that they would have acted as Bouët did. "Too strong in appearance to do nothing, too feeble in reality to attempt anything serious, the squadron was placed in a false position, extremely trying to its *personnel*;"* says the French historian. It was placed

* Chevalier, 91. *See* also Appendix II.

in that position because France had not understood or provided for a naval war on the German coast.

At Wilhelmshaven the state of things was much the same, but here, if the port could have been captured by a *coup de main*,* there was at least a prize in the shape of the three German ironclads. But could it have been captured in this way? Perhaps at the very outbreak of the war, before the defences were ready; but even then the German ships would have been found in a basin, access to which was difficult, by reason of the tides. Here also a landing force would have been required to destroy the arsenal, and such a landing force could not be provided from the crews of the French ships. The frigates carried 500 men, the corvettes 380. From 100 to fifty men might have been spared from each vessel, making a grand total of less than a thousand, taking the most favourable estimate. And at Wilhelmshaven, far more than at Kiel, the difficulty of navigation imperatively demanded a flotilla of light-draught vessels. The French ships were not constructed for the special object of operating in shallow water, and thus the *matériel* of war dictated the strategy of the fleet. "The merit of the Germans, which no one can deny them, was that they prepared everything with certain objects in view which they foresaw, and towards which they directed their efforts."† The fault of the French was that if they understood the end, they forgot to provide the means.

Lastly, it was objected that the French fleet had not bombarded the open German towns on the seaboard. Such a proceeding is devoid of all strategic result; and is mere waste of life and destruction of property. It is a maxim which governs modern warfare, that unnecessary suffering is not to be inflicted upon an enemy. The attack upon open towns

* "The port (of Wilhelmshaven) could not be efficiently closed before July 31st. The protection of the harbour, in the first instance, devolved upon the North Sea Squadron assembled there." Staff History, I., i., 49.

† Chevalier, 206.

demands a great expenditure of ammunition, which is valuable to the assailant, and of which much cannot be carried on shipboard. When successfully effected it only serves to embitter the relations of the combatants. It would have been in the last degree inexpedient for the French fleet to have thus provoked Germany, when the Germans were in possession of a great part of France. We may be certain that the Germans would have retaliated by compelling the French towns in their possession to make good their losses, if they had not proceeded to more drastic measures. And Kolberg alone was exposed to the ironclads. The other open ports lay far up rivers and estuaries, or were inaccessible to ships of heavy draught. The destruction of Kolberg could not have influenced the conduct of the war in the smallest degree.

The teaching of the Franco-German war, from a naval point of view, is that fleets can effect nothing beyond a blockade, on a hostile coast, if that coast is difficult of access and well fortified, unless there is an army behind the navy. Once more, to quote Captain Chevalier: "The absence of troops, of disembarkation, rendered barren all the efforts and all the good-will of the fleet."* Alike in the struggle in America between the North and South, and in the war in the East, between China and Japan, it was not the fleet alone which brought about the fall of fortresses on the coast, but fleet and army co-operating intelligently. And, in regard to the blockade, the torpedo-boat did not at this date exist. Whether the French would have ventured into German waters, which are peculiarly adapted to vigorous action by torpedo-boats, had the modern conditions existed, may be held doubtful. They would more probably have watched the North Sea coast from a distance, whilst placing a second fleet in the Cattegat. The difficulties and dangers which the ironclads had to encounter in the blockade may give us some foretaste of what a blockade of the French coast would mean, though the coast-line of France

* Chevalier, 92.

is not marked by the shoals and sandbanks which make navigation in German waters so hazardous. It is noteworthy, too, that in both the Baltic and North Sea it was found necessary to maintain a French squadron stronger than the combined German force in either sea, and this was before the Kaiser Wilhelm Canal.

CHAPTER XIII.

Naval Operations of the Russo-Turkish War. 1877-1878.

When Russia declared war on April 24th, 1877, Turkey was the possessor of an overwhelming fleet. The Russian navy laboured under great disadvantages; one half of its ships were in the Baltic, far removed from the scene of action, and unable to enter the Black Sea or even the Mediterranean without causing unpleasant complications. The rest of the Russian fleet was absent on the Atlantic, or the distant Pacific station, so that in the Black Sea there were scarcely any sea-going ships. In the Mediterranean was a small squadron, but the same causes, which kept the Baltic fleet inactive, operated here also, and the ironclad *Petropaulovsk* remained laid up at Spezzia through the war. Russia was thus unable to concentrate her naval strength and had to concede to Turkey the command of the Black Sea. Her only ironclads were the two "Popoffkas" or circular barbette ships, *Novgorod* and *Vice Admiral Popoff*, incapable of steering or steaming. They could not be trusted at sea, and were used only for harbour defence. Add to these a few old and worthless corvettes and sloops, and a dozen or more torpedo launches, many of which had been sent overland by rail from the Baltic, and we have the war fleet of Russia in these waters. She supplemented this fleet to some extent by the purchase of fast merchant steamers,* which were used to convey torpedo-boats.

* Nineteen steamers were purchased. Their names were *Rossia*, *Vesta*, *Vladimir*, *Constantine*, *Argonaut*, *Batzuska*, *Rodimyi*, *Sestrica*, *Krikun*, *Boltun*, *Bratec*, *Matuska*, *Akerman*, *Docka*, *Vnoutchek*, *Meteor*, *Lebedi*, *Outka*, and *Voron*.

With the advent of armour Turkey had paid great attention to the reconstruction of her fleet, and whereas Russia, up to 1870, was hampered by the Treaty of Paris, which forbade her to maintain any fleet in the Black Sea, Turkey was subject to no such restrictions. The Turkish ironclads, with one or two exceptions, were broadside or central-battery ships, launched between 1864 and 1874. Amongst them were: one ironclad of 9000 tons,* sister ship to our *Superb;* four of 6000 or upwards; † one of 4000 tons; ‡ seven of over 2000 tons, all broadside or central-battery ships,§ in addition to two double-turret monitors,‖ and seven small armoured gunboats. The guns mounted upon these ships were Armstrong muzzle-loaders of 10, 9, and 7-inches. The officers had, many of them, been trained in the English navy, and there were in addition numerous Englishmen serving the Sultan, amongst whom must be mentioned Hobart Pasha. But where Englishmen were not present the Turkish fleet was handled with little strategical skill, and the Russians in their torpedo attacks suffered very little loss.

The immense influence of sea power on this war is evident from a very slight study of the map. The coast of Turkey both on the Black Sea and Mediterranean was extensive at this date — before she had lost control of the northern Balkan States. From the mouth of the Danube to the Caucasus stretched Turkish territory, with numerous good harbours, offering exceptional facilities to a descent from the sea. Had Russia possessed a superior fleet there would have been no Plevna, no desperate actions on the Lom, and the world would not have had to wonder at General Gourko's dash on Roumelia. Instead, the Russians striking at Constantinople, the heart of the Turkish empire, would have

* *Mesoodieh.* † *Asazieh, Mahmoodieh, Orkanieh, Osmanieh.*

‡ *Assar-i-Tewfik.*

§ *Assar-i-Chevket, Avni-Allah, Feth-i-Bulend, Idjilalieh, Mouin-i-Zaffre, Mukhadem Khair, Nedjem-i-Chevket.*

‖ *Kifz-i-Rakhman Lutf.-Dje'il.*

sundered the Sultan's dominions, and quickly and easily have terminated the war. Not only were they unable to send troops by sea and thus to turn the Balkans and Danube, but also provisions, stores, and supplies, had all to travel overland by the single railway which descended Moldavia to Galatz. And this railroad again was dangerously exposed to the Turkish flotilla on the Danube, which, if used with vigour and discretion, might have destroyed it where, between Galatz and Braila, it passes close to the Danube.

Having no chance of success in a pitched battle with the Turkish fleet, the Russians withdrew their slow ships to their fortified harbours, where they kept them during the war, following the tactics of the Germans in 1870. They laid down mines and torpedoes, whilst they prepared to harass the Turks, not by the warfare of squadrons but by the attack of "squadronlets." The task before the Turks was evident. They had to watch and blockade their opponents' ports and to prevent the passage of merchantmen or transports between them. In particular Odessa and Sebastopol at the end of the two lines of railway, which link the Black Sea littoral with Moscow and St. Petersburg, demanded attention, as from them expeditions might be expected to sail. In the second place they had to watch the Danube and support the right flank of their army in Europe, the left of their army in Asia. The Danube was neglected, and in consequence the Russians passed it with little difficulty. Thirdly, they had to convey supplies and troops to the Turkish forces. Fourthly, to threaten the Russian right in Asia by operations on the Caucasus coast. Finally, the coast of Turkey itself, and Constantinople, had to be secured from descents. Most of these objects could have been attained by a strict blockade of the enemy's coast, but there was no attempt at this. Indeed the Russians came and went with almost absolute impunity, and gunboats fitted up at Odessa, voyaged along the coast to the Danube without let or hindrance. It was the moral influence of the torpedo which kept the Turks at this respectful distance.

Thus there was but one action between ships during the war, and, except this, only engagements between ships on the one side and torpedo-boats on the other.

In the Danube the Turks had the monitors *Hisber* and *Seifé*, the armoured gunboats *Feth-ul-Islam*, *Semendria*, *Berkvir-dilen*, *Iscodra*, and *Podgoritza*, and the turret-ship *Lutfi Djelil*, with six wooden or iron gunboats under Dilaver Pasha. At Sulina were stationed the ironclads *Mukhadem Khair*, *Kifz-i-Rakhman*, *Medjemieh*, *Assar-i-Chevket*, and *Mouin-i-Zaffre*, but their draught of water prevented them from ascending the river. The Russians despatched torpedo launches from Kronstadt to Slatina and Fratesti by rail. Arrived at these places they were carried on waggons down to the river, their transport being superintended by sailors who accompanied them. The boats appear to have been third-class ones of 50 to 60 feet length and 10 to 20 tons displacement, with maximum trial speeds of fifteen knots and crews of ten men each.

The first Turkish ironclad to be lost was the *Lutfi Djelil*, a turret-ship of 2500 tons, built at Bordeaux in 1868, mounting in her fore turret two 9-inch muzzle-loaders, and aft two 7-inch, with two 40-pounders on her forecastle. It is uncertain whether she was destroyed by a mine, by a torpedo, or by a shell. The Russians had sowed the river pretty liberally with mines to prevent the Turks from moving, but they themselves attribute her destruction to a shell. On May 11th she was engaged with a Russian battery mounting 6-inch mortars and 25-pounder rifles, when suddenly a puff of white smoke was seen to rise from her, followed by a great cloud of black smoke and steam. When the cloud cleared away the vessel had gone to the bottom. It is suggested that a shell dropped down her funnel and caused her boilers to explode. This would explain the black smoke, which was probably coal dust from the bunkers, and it is to be noted that there is no mention of any uprush of water such as would arise from the

explosion of a mine or torpedo. The Turks ascribe her loss to an accident.

It was next resolved to attack the Turkish squadron near Braila, consisting of the *Feth-ul-Islam* and *Seifé*, small armour-clads, with the gunboat *Kilidj-Ali*. On the night of May 24th, Lieutenant Doubasoff, who had been entrusted with the command of the four torpedo-boats, the *Czarevitch*, *Xénie*, *Djigit*, and *Czarevna*, reconnoitred the position of the Turks. He must have been observed by his enemies whilst thus engaged, as the Turkish flotilla next day changed its position. The night of the 25th was fixed for the attack. It was pitch dark, and heavy rain was falling, which rendered it impossible to see further than a few yards ahead. The Russians left Braila in single file, and in this order proceeded till they came in sight of the Turks. Hitherto they had kept inshore, but now Doubasoff led his boats into the middle of the stream, and formed them in two columns. The *Czarevitch*, under Doubasoff, with fifteen men, and the *Xénie*, commanded by Lieutenant Chestakoff, with nine men, led; the *Djigit*, under Midshipman Persine, with eight men; and the *Czarevna*, under Midshipman Bali, with nine, followed. The two leading boats were to deliver the attack with the spar torpedoes which they carried; Persine was to pick them up if they met with disaster, whilst Bali was to hold his boat in reserve. The *Seifé* was seen to be in the centre of the stream, the *Feth-ul-Islam* and *Kilidj-Ali* to the right and left of her, considerably ahead.

The wind was a light one from the north-west, and the boats were going very slowly towards the enemy, making little noise, when the *Czarevitch* had to stop. Without the steam-blast, which made so much noise that it could not be used, the pressure in the boiler fell from 60lbs. to 30lbs., and the boat could not go forward. Four times Doubasoff had had to delay already to allow the pressure to rise, and it had in consequence taken the flotilla an hour-and-a-half to do eight miles. It was now close upon 3 a.m., when, after once

more obtaining a head of steam, Doubasoff stoked up his fires, ordered full speed ahead, and warning Chestakoff, in the *Xénie*, that he was going to attack, dashed forward. The *Seifé* was only 135 yards off, and half the distance was covered, when a Turkish sentinel hailed the boat. Doubasoff answered his hail with "Seni Adam," by mistake for "Sizgyn Adam," "one of your men," though even this was not right, and the correct reply was, "Janandji Deil," "I am not a stranger." In consequence the Turks saw that this was an enemy, the sentry fired, the alarm was given, and the ship was lighted up. The Turkish gunners stood smartly to their guns, and, in the minutes of suspense which followed, the Russians heard the lock-strings of the turret-guns pulled three times, but, fortunately for them, each time there was a misfire. Doubasoff had headed for the deckhouse aft, wishing to keep out of the line of fire of the turret-guns. Going only four knots an hour, his spar-torpedo touched the *Seifé's* side just forward of her sternpost. As the circuit was completed automatically the torpedo exploded with a tremendous crash. A column of smoke and spray rose to a height of 120 feet, and fragments of iron and timber falling on the boat showed that the force of the explosion had rent open the ship's side. A great quantity of water came on board the boat, half filling her, and made Doubasoff imagine that she was fatally injured, and sinking. He had ordered his men to leap overboard and swim to the *Djigit*, when his coxswain called out to him that, after all, the boat was not damaged, and that all that was wanted was to bale out the water in her. Meantime the displacement of the Turkish monitor was changing, her stern being immersed, whilst her crew, collecting forward, poured a hot but very ill-directed rifle-fire upon the Russians. Baling out their boat the latter went astern, and as they cleared the ship the turret-guns were fired at them, but luckily for them the shots passed over their heads. Doubasoff, seeing that the *Seifé* was going

down far more slowly than he had expected, now shouted to Chestakoff to come on. The *Xénie* rushed forward, and just as the Turks fired their turret-guns a second time, Doubasoff heard a violent explosion, accompanied by a great upheaval of water. The shock to the Turkish ship was great, and woodwork from her was seen to fall close to the *Xénie*. The Turks ceased their heavy gun fire, but redoubled their musketry. The second torpedo had exploded just under the turret, probably jamming it. Chestakoff had fouled his screw in the wreckage, and could only get clear of the Turkish ship by pushing his boat along her side. All this time the Turks were firing at him and he at them, yet, though only a few feet apart, no Russian was wounded, and only two or three Turks. A bullet, however, struck the stern of the *Djigit*, making her leak rather badly, and when at last she retired, she had to be run aground. There the leak was stopped, and the weeds and wreckage which had caught in her screw removed. Day was at last breaking, and the Turkish ships, seeing the Russians plainly, had opened a hot fire upon them, when Doubasoff drew off to Braila, his men giving a ringing cheer as they saw the *Seifé's* hull disappear below the water. All the Turkish projectiles passed over their heads, and they did not acknowledge the loss of a single man. The other two Turkish ships failed to give any support to the *Seifé*, though they might perfectly well have closed in upon the Russian torpedo-boats. The Russians ascribe this remissness to ill-feeling between the various commanders. The Turkish account of the affair was that the *Seifé* had been sunk by two Whitehead torpedoes.

On the 10th of June the *Grand Duke Constantine*, a merchant steamer of 1480 tons, which had been taken over by the Russian Government for use as a torpedo-boat carrier, equipped with four 4-pounders, four howitzers, and six torpedo-boats, carried on her davits, supported by the *Vladimir*, a similar ship of 1600 tons, similarly armed, arrived off the mouth of the Danube. Each of these ships carried a

crew of 150 men, and the whole expedition was under the command of Lieutenant Makaroff. The object was to destroy four Turkish ironclads, which were supposed to be lying off Sulina—the *Feth-i-Bulend, Idjilalieh, Mukhadem-Khair,* and *Kartali.* The Russians had left Odessa during the night, and had met with no Turkish ships at sea, thus practically illustrating the ineffectiveness of the blockade. After first lying to off the Isle of Serpents, twenty-six miles from the coast, to make certain that the Turks were not cruising off shore, Lieutenant Makaroff went on to Sulina, where the boats were dropped. Their orders were to find and attack the Turkish ships. They were to keep together, and support each other; but, in the event of their not being able to discover the enemy, they were to rejoin the *Constantine* some miles to the north. The boats were formed in two lines: in the first were No. 1, under Lieutenant Poutschine; No. 2, under Lieutenant Rojdestvenski, both equipped with spar-torpedoes; whilst the *Tchesmé,* under Lieutenant Zatzarennyi, had with her a towing-torpedo. In the second line were the other three boats. Going cautiously in towards Sulina, with their engines working silently, and their lights hidden by tarpaulins, the boats discovered the Turks, The *Tchesmé,* after giving Nos. 1 and 2 orders what to do, left them, in order to work her towing-torpedo down upon one of the Turks, whilst the other five steered for the enemy's ships, which were lying at anchor with banked fires. Rojdestvenski ran at the *Idjilalieh,* but, when he got close to her, found that she was surrounded by obstructions.* Against these his torpedo exploded, and, without doing the Turkish ship any damage, threw up a huge column of water, which filled the fore compartment of his boat. The boat was much injured by the shock of the collision with the booms which supported the obstruction, and by the explosion. The steering-gear was

* Hobart Pasha states that these ships were surrounded by a rope, running from one guard-boat to another, and that No. 1 torpedo-boat capsized through being suddenly brought up by the rope. Blackwood, cxxxvii., 742.

disabled, the funnel bent, and the water gauges smashed. The pressure in the boiler fell, and it was only by burning salt and oakum that the engineer could keep steam up. The boat went astern as soon as she could move, under a heavy fire from the Turks, who riddled her with bullets. The *Idjilalieh*, not content with playing a passive part, moved slowly in pursuit, but the torpedo-boat escaped. The *Tchesmé*, with her towing-torpedo, could do nothing. No. 1 boat, supporting Rojdestvenski, collided with a boom, against which she exploded her torpedo, A minute later she was struck by a shot, and sunk. The Turks captured her, with six prisoners. The second division, finding that the enemy was on the alert, and that nothing could be done against his ships encircled with netting,* retired without using a single torpedo. In this attack the Russians lost a boat, and inflicted no damage upon their enemy. Amongst those who escaped, they owned to no killed or wounded.

On June 23rd, Major-General Leonoff, who was in command of the Russian forces on the upper Danube, observing that a Turkish monitor was starting down the river from Nikopolis, ordered the two torpedo-boats, *Choutka* (Midshipman Niloff) and *Mina* (Sub-lieutenant Arens), to conceal themselves behind an island, and, when the monitor passed them, to attack her. They got ready their spar-torpedoes, and, when she appeared, ran at her, but for once the Russians had caught a tartar. The monitor very smartly lowered her nets, and herself rigged out torpedoes on booms, which made it dangerous for the boats to come near her. She opened a sharp fire upon the boats, which did not harm them much, as they carried boiler-plate shields to protect their crews. Steaming quickly backwards and forwards, she puzzled her assailants by the rapidity of her movements, and tried to catch them between her booms and the bank. The *Choutka* only just escaped being destroyed in this way. The secret of this vigorous resistance was that the captain was an Englishman.

* *See* previous note.

The Russian sailors saw him standing on the bridge, and waving his cap to them when they fired their revolvers and carbines at him. The boats escaped with difficulty, having done the monitor no harm.

Three days earlier ten Russian boats whilst laying torpedoes in the river were attacked by a Turkish monitor, near the fortress of Rustchuk, and were driven off, though not before one of the boats, on which was the painter Verestchagine, had made an attempt to use her spar-torpedo. The wire which fired the charge was cut by a bullet, and the Russians were forced to retreat.

At the end of June, notwithstanding the Turkish flotilla in the river, the Russians succeeded in crossing the Danube. Considering the large Turkish army, which lay on the southern shore, watching the operations of its enemy, and the naval predominance of the Turkish fleet, this was very discreditable to both branches of the Sultan's service. Ships, freighted with stones, had however been sunk in the channel by the Russians to prevent the interference of the warships. Having obtained possession of the upper Danube the Russians were naturally anxious to clear out the Turkish ships which lay in the Sulina mouth. Though the Danube has three mouths which enter the Black Sea, one of which, that which debouches by Kilia, was in their hands, the depth of water is insufficient to permit the passage of ships drawing more than ten feet, except at Sulina. This mouth had been deepened by the International Commission till it would permit the entrance of vessels drawing eighteen feet. It was defended by three batteries at Sulina, two of which, one on the north and the other on the south bank of the Danube, bore upon ships approaching from the sea. A strong chain had been stretched across the stream between the two breakwaters, and covered by this lay the Turkish ironclads *Medjemieh, Assar-i-Chevket, Kifz-i-Rakhman*, and *Mouin-i-Zaffre*, the latter carrying the flag of Mustapha Pasha. To prevent an attack from up-stream, a strong

battery had been erected about a mile above the town, close to which lay the ironclad *Mukhadem Khair*, the old gunboat *Sulina*, and an armed tug. Two chains had been carried across the river here to prevent the descent of torpedo-boats, and numerous mines of boiler-iron five feet long and three feet in diameter, charged with pebble powder, had been laid in the channel. The town could not be attacked by land, as, on both sides of the river, the sand banks upon which it stands are surrounded by marshes.

To capture this place the Russians prepared a flotilla at Odessa. Included in it were the gunboats *Voron* mounting three 16-centimètre mortars and two 9-pounders; *Outka* with three 16-centimètre mortars and two 4-pounders; *Lebedi* with the same complement of mortars, two 4-pounders, and one 3-pounder; a barge towed by the gunboats and mounting two 16-centimètre mortars and one 9-pounder; two tugs each with one mortar and two 4-pounders; and lastly, seven torpedo-boats, one of which, the *Lieutenant Poustchine*, had been equipped by the Odessa Yacht Club. This flotilla was allowed by the Turks to leave Odessa and enter the Kilia mouth of the Danube unmolested. It brought with it ninety torpedoes, two rocket troughs with seventy-five gun-cotton rockets, and two torpedo-tubes for discharging Whiteheads. Whilst ascending the Kilia mouth the torpedo-boat *Lieutenant Poustchine* touched the bottom and was so injured that she sank. On November 8th the Russian boats, having descended from Toultcha, where the three mouths unite, were sent forward to lay mines above Sulina, and thus to prevent the Turks from moving. The boats ran down till close to the first chain, when they laid their mines, but whilst thus busied were discovered by the Turks, and fired upon. As usual the Turkish fire was not very effective, and they completed their task with coolness before retiring. Next day the Russian armed steamer *Opyt* was dispatched to reconnoitre, but the Turks were quite ready for her and opened a sharp fire. A tug steamed

straight towards her, and owing to its light draught passed over the Russian mines without injury. The *Sulina*, however, trying to follow, was less fortunate, and at 8.10 a.m. reached the Russian mine-field and struck a mine, which instantly exploded. A huge column of water rose and she sank; a second explosion, probably caused by her boilers, following a few seconds after her hull had disappeared. The water was too shallow to cover her, and she lay with bridge, masts, and funnel showing above water. Two officers were killed on board her and six men drowned, whilst five were badly burnt by the explosion. The rest of her crew were rescued by the tug. The *Mukhadem Khair* now steamed up, but did not venture amongst the mines, opening instead a vigorous fire upon the Russian flotilla which had come into sight. As shot after shot came nearer and nearer the Russians retired. That night was so dark and stormy that they made no attempt to use their torpedo-boats. Next day the whole flotilla came down, and at a range of 4800 yards opened with the mortars on the Turks. The *Kifz-i-Rakhman* was struck by a shell in her boiler, which forced her to retire; and emboldened by this the mortar-boats dropped down stream and plied the *Mukhadem Khair* with shell. The Turks on this day shot very badly, all their projectiles going wide, yet it does not appear that the Russians made much better practice. The fire of their mortars was most uncertain, but if they did not sink the Turkish ironclads, they at least drove them to take shelter behind one of the breakwaters. This was the last engagement upon the Danube.

From the commencement of the war the Turks had used Batum as the headquarters of their Asiatic squadron, and, as that port is entirely open,* had given the Russians peculiarly favourable opportunities of using the torpedo, of which the latter were not slow to avail themselves. The first attack

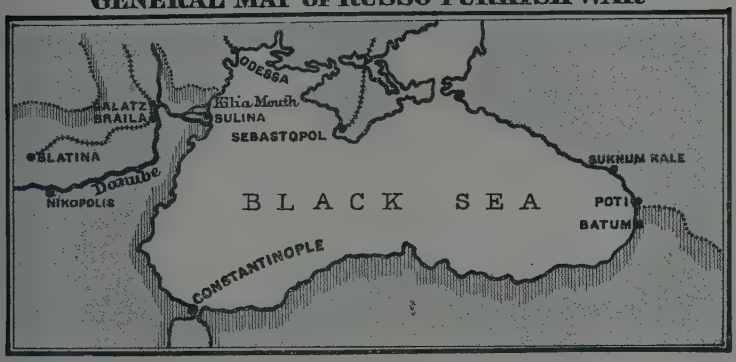
* According to Hobart Pasha, a strong timber boom, 300 yards long, protected the anchorage. Blackwood, cxxxvii, 741.

upon the Turkish ships there was made early in May, by four torpedo-boats carried to the scene of action by the *Grand Duke Constantine*. Leaving Sebastopol on the night of May 10th this vessel, without showing any lights, steered towards Batum. She was burning picked Welsh coal, and as the Turks used soft coal, which makes a great deal of smoke, hoped to be able to see them before they could see her, in case she met any of their ironclads at sea. She reached Poti, however, without adventure on the evening of May 12th, and hearing that there were some Turkish ironclads in Batum harbour at once lowered her boats, which were the *Tchesmé*, *Sinope*, *Navarino*, and *Sukhum Kalé*. They were all painted a sea-green colour, almost invisible at night, and were fast, handy, and small. Standing in towards the harbour they saw a Turkish vessel lying just outside it and acting as a guard vessel. The *Tchesmé*, under Lieutenant Zatzarennyi, manœuvred to bring her towing-torpedo under the enemy's stern, in which she succeeded, though, through the cable fouling something, it did not explode the charge, but only alarmed the Turks, who at once opened fire. Finding that nothing more was to be done the Russian boats retired without much difficulty.

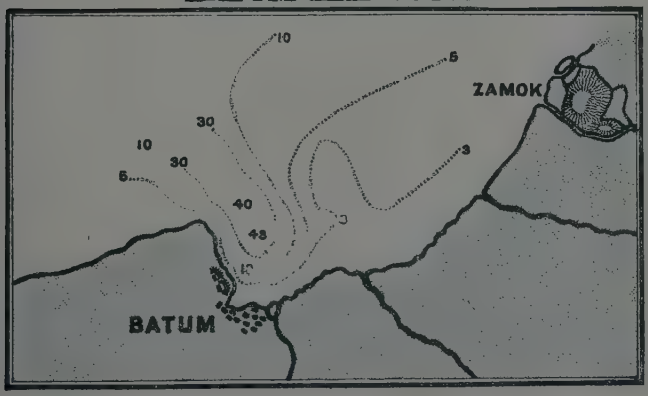
On the night of the 23rd—24th of August there was a lunar eclipse commencing about midnight. The indefatigable Lieutenant Makaroff resolved to utilise this for an attempt upon a Turkish squadron, which was lying off Sukhum Kalé, a Caucasian port in Russian territory recently seized by the Turks. At 10 p.m. on the night of the 23rd his ship, the *Constantine*, was six miles off Sukhum, and at once lowered her four boats, the *Sinope*, Lieutenant Pifarefski, the *Torpedoist*, Midshipman Hirst, the *Navarino*, Lieutenant Vishnevetski, and the *Tchesmé*, Lieutenant Zatzarennyi, who was in command. It was supposed that a pile-stockade* had been erected round the ironclads, and therefore great caution was necessary in

* Obstructions similar to the boom detailed on p. 293 may have been employed.

GENERAL MAP OF RUSSO-TURKISH WAR



BATUM HARBOUR



MAP XVI.

approaching them. The boats left in two columns at 10.30, the *Tchesmé* and *Sinope*, each towing a torpedo. At 10.45 they were compelled to stop and wait till a small sailing vessel, which was crossing their course, and which they feared might give the alarm, was gone. At 11.30 they were not more than three or four miles from the town and lay to, to wait till the moon was eclipsed. Two hours later, when the moon was nearly hidden, Zatzarennyi steering south-east reconnoitred the vessels in the roads. A large number of feluccas were moored close inshore. Further out were two large ships with their heads inshore, only four hundred yards from the beach. A great wood fire was burning on the beach, brilliantly illuminating the harbour, and showing the Russians groups of Turkish soldiers, and a battery of guns which bore on the water. At 2.45, when the eclipse was nearly total, the four boats advanced towards the *Assar-i-Chevket*, which lay nearest to them, exposing her starboard side. The *Sinope* and *Navarino* steamed in with their towing-torpedoes, but were at once seen and hailed. Their only answer to the hail was an effort to come to close quarters with the *Assar-i-Chevket*. They steered for her funnel under a heavy fire both from the ships and the shore. Just under the ironclad, by her accommodation ladder was moored a boat; near this one torpedo exploded, but with so little effect that it did not even injure it, and the ironclad was quite unharmed. The surface of the water was covered with black dust, and this the Russians took to be from the coal in the ironclad's bunkers, imagining that they had torn her open. Meantime the *Sinope* had run close under the *Assar-i-Chevket*, where she was at once assailed by the Turks in the boat. There was a hand-to-hand struggle lasting some few minutes, in which Lieutenant Pifarefski was wounded and all but dragged overboard by a Turk, who harpooned him with a boat-hook. He was over the gunwale when the shots of his companions saved him. With difficulty at last he got his boat free and retired. The *Navarino* had also exploded her

torpedo with no great effect beyond half filling herself with water. The Russians assert that this torpedo gave the ironclad a heavy list and terrified the Turks, but these are mere uncorroborated assertions. The *Tchesmé* under Zatzarennyi had at first gone past the ironclad to attack another vessel which was moored beyond her, but finding that it was smaller than it looked, turned back and tried to tow her torpedo under the *Assar-i-Chevket's* stern. Zatzarennyi, however, found his boat in the midst of wreckage and swimming men, possibly from the Turkish boat already mentioned, and on his torpedo line fouling the ironclad's accommodation ladder, he had to cut the torpedo adrift. It was found on the beach by the Turks next day. His troubles were by no means over. The *Assar-i-Chevket* rolling heavily, as the result of the explosions, caught the *Tchesmé*, and carried her head under water, whilst the Turks poured in a rifle fire, though their shots passed over the heads of the Russians, as they always did. The Russians, bruised and blinded, only got free with great difficulty, but they were persuaded that they had sunk the ship, and some vivid imaginations even heard the despairing groan of her crew as she sank. When clear of the Turkish fire Zatzarennyi discovered that the *Torpedoist* was missing, and at great risk went back to look for her. He had given her up, when, as he steamed towards Kelasour, on the coast, she appeared safe and sound, and all four boats rejoined the *Constantine*. They had a very narrow shave when they reached her, since, through the mist of dawn, the masts of a Turkish ship were seen barely three miles away to sea. Luckily for the *Constantine* the Turks did not see her, else it would have gone hard with her, as this was the ironclad *Osmanieh*, at least a knot faster than the Russian vessel. In seven minutes the boats were hauled on board, and the *Constantine* was off to Odessa. The Russians returned their loss as only one man wounded, Lieutenant Pifarefski. They had done no harm to the Turkish ironclad, which was at Constantinople a week later.

She was commanded by Ismail Bey, a smart officer who had served in the British fleet. According to him only one torpedo exploded, and that was not in contact with his ship.* The Turkish crew showed no want of courage and steadiness, lying down on deck with their rifles, and training the heavy guns on the boats at the first alarm.

The next of the Russian torpedo attacks was made at Batum on the night of December 27th. As usual Lieutenant (now Captain) Makaroff, with the *Constantine* and four torpedo-boats, put into Poti, where he obtained information of the Turkish ships at Batum. The boats were then lowered. The night was intensely dark, a fine rain was falling, and there was hardly any swell; in fact, the conditions were as favourable as they well could be. On this occasion the boats were the same four which had previously attacked at Batum, but the torpedoes carried were in two cases of a very different type. The *Tchesmé*, in charge of Zatzarennyi, was equipped with an automobile Whitehead, the second ever used in actual war,† containing 60lbs. of gun-cotton. The discharging tube was carried under her keel, and cut adrift as soon as the torpedo had been fired. The *Sinope*, under Lieutenant Stchelinski, also carried a Whitehead, in a tube on a raft which was lashed to her. The other boats had only the ordinary towing-torpedo. The squadron left the *Constantine* at ten, and had great difficulty in finding the harbour of Batum, as the darkness was almost impenetrable,‡ and Makaroff, fearing the drift of the currents, had not given quite the right bearings. After some hours of groping about, the masts of two Turkish ships were seen over the point of land which shelters the harbour. Though only two vessels were made out, there were, as a matter of fact, seven.

* Hobart Pasha states that there was a slight mark on the armour-belt of the ship, but absolutely no damage. Blackwood, cxxxvii., 742.

† The *Shah* used the first against the *Huascar*.

‡ Great precautions were taken at Batum by Hobart Pasha, and no lights were allowed to be shown either on the ships or on shore. Hence it was always hard to find the place.

The Turkish sentries could be heard in the stillness whistling and calling to one another. Selecting the largest of the vessels before them, which they took for the *Mahmoodieh*, the *Tchesmé* and *Sinope* went ahead, and, when close to her, the *Tchesmé* fired her torpedo. It ran straight, leaving a phosphorescent trail behind it, and exploded, but not in contact with the ironclad. It has been suggested that it dived and struck a rock, a suggestion which seems probable. The spout of water rose between the Turkish ship's fore and mainmast, and the Russians, naturally enough, imagined that they had given their enemy a death wound. The *Sinope* next fired her torpedo to make sure, but it failed to explode, and was picked up by the Turks next day. Under a heavy small-arms' fire the Russians retreated without the loss of a man. As they fell back, they saw a steamer steering for Batum, and, going towards her, were about to use their spare towing-torpedoes upon her, when she made them the private signal. It was the *Constantine*, which had only a few minutes before been seen by the other two boats. Taking her for an enemy, with more discretion than valour, these had retired to Poti, where she picked them up.

The last attack was made at Batum on the night of January 25th—26th, 1878. The *Constantine*, under Makaroff, had received orders to cruise along the east coast of the Black Sea, and threaten Batum. She had with her only two boats, the *Tchesmé* (Lieutenant Zatzarennyi), and the *Sinope* (Lieutenant Stchelinski), both armed with Whiteheads. At Poti, which commands a good view of the Batum harbour, it was learnt that the Turkish fleet was off Batum. Makaroff resolved to attack at once, and lowered the boats. Though the weather had been so stormy on the voyage that the boats on the davits had been repeatedly in the water, no damage had been done to them. The gale had moderated, yet there was a heavy swell. At 11.20 p.m. the boats left the ship, but heavy snow had entirely changed the appearance of the coast, and it was not till two hours later that they were off the

harbour of Batum. Zatzarennyi had before him a picture of great beauty. The moon shone brightly upon the snow-covered hills and on the ships in harbour, which were eight in number, moored with their bows towards the shore. At the entrance lay a guard-ship; then, further in, a paddle-steamer and two masted ironclads; still further, a second paddle-steamer and more large vessels. As he drew near the guard-ship, Zatzarennyi made her out to be a man-of-war, of from 1500 to 2000 tons. When only eighty yards from her the two boats simultaneously fired their Whiteheads, aiming at her mainmast. Both struck her, and exploded with a fearful noise of smashing iron, and in one minute her hull was below the water. Another minute, and the Russians saw her masts go, and raised a cheer.* The water was covered with wreckage, which prevented Zatzarennyi from going to the help of the Turks. At 2.45 the boats rejoined the *Constantine*, having suffered no loss.

There is a great sameness about all these attacks. In each case the Russians, unseen, get close to the Turks, in each case they explode their torpedoes with varying result, and in each case a heavy fire is poured into them after the explosion. From beginning to end they lost not a single man killed, if we can accept their accounts as accurate. The Turks, with very rare exception, seem to have hit no one, and missed even the boats, which at close quarters were sufficiently large targets. This was in the days before quick-firers, when there was not a single piece intermediate in size between the heavy and clumsy 40-pounder, and the Gatling, mounted on ship-board. The Turks had no Nordenfelts or Hotchkisses to meet the torpedo attacks. It is, of course, a matter of extreme difficulty to train awkwardly mounted guns upon small quickly moving vessels, and it is as difficult with slow-firers to hit them when the guns are laid, but the quick-firer has changed all this. The torpedo-boat has distinctly lost

* Hobart Pasha makes no mention of the loss of this ship.

ground since the date when the quick-firer came in. It has doubled its speed, it may be, but then the increased size necessary to give this increased speed has made the target easier to hit. Supposing the ironclad *Mahmoodieh* to have been the ship attacked on December 27th she could not fire more than ten projectiles a minute—if indeed she could have fired five. Each would have been certain to destroy a torpedo-boat had it hit it, but then the number was not sufficient to give a reasonable margin for ill luck. A modern ship of her size—the *Rostislav* for instance—would in the same time discharge a hundred projectiles ranging from 80lbs. to 3lbs. in weight, and this without employing her heavy guns. On the other hand the modern boat is faster and need not come so close.

One point deserves attention—the excellence of the plan which the Russians adopted, of conveying their boats to the scene of action in a larger vessel. Thus the torpedo-crews could arrive without being worn out by the fatigue and exhaustion caused by two or three days tossing at sea on board these cockleshells. Is it too much to attribute the great coolness which they displayed, in part at least to their excellent physical condition? They seem to have experienced no difficulty in getting the boats in and out, though unfortunately information concerning the exact size of the torpedo craft and the tackle used is not accessible.

One solitary encounter between ship and ship took place during the war. On July 23rd the armed merchant steamer *Vesta* whilst cruising on the coast of Roumelia saw smoke to the south, and imagining it to be from some small Turkish ship at once steered so as to cut her off from the coast. At 8 a.m. however the approaching vessel was made out to be a Turkish ironclad, the *Assar-i-Chevket*, of 2000 tons and eleven knots speed, protected by armour 4½ to 6-inches thick, and carrying a battery of five 8-inch muzzle-loading guns, of which not a single one could be brought to bear ahead. The *Vesta* was a screw steamer of 1800 tons and

PLATE XIV.

6-INCH QUICK-FIRER: CREW LOADING.

See ii., 251.

130-horse power nominal, armed with four rifled guns and five 6-inch mortars. She was totally unfitted to engage an armoured ship-of-war and accordingly endeavoured to make off. The Turks followed her, and opened on her, as she edged off to the north-west striving to avoid a broadside action. Her captain had supposed that the superiority in speed lay with his ship, as the *Vesta* could cover twelve knots in the hour, but found that he was being overhauled. The ram of the enemy was slowly nearing his stern, and grape and musketry swept his deck. Two concentrated broadsides fired by the *Vesta*, yawing, had no effect, whilst two 8-inch shells hulled the Russian ship, and, bursting between decks, started a fire just over the magazine, killed two artillery officers, and damaged one of the mortars. As the *Vesta* was being raked with deadly effect, Lieutenant Péreleschine asked the captain to allow him to take two boats and lay torpedoes under the Turkish vessel, though what two boats could have done against a ship steaming upon the open sea at a good speed, is not obvious. The request was refused as the sea was too rough to lower boats with safety, and a minute later the gallant lieutenant's leg was taken off by a shot. Just as the Russians were giving themselves up for lost a lucky shot struck the ironclad's conning-tower, and she abandoned the pursuit. She had her funnel much riddled, her deck perforated, and perhaps a shell in one of her boilers.

CHAPTER XIV.

Actions on the South American Coast, 1877—1881.

1.—The *Shah* and the *Huascar*. May 29th, 1877.

In May, 1877, the crew of the Peruvian turret-ship *Huascar* mutinied and declared for Pierola, a claimant to the presidency of Peru. The *Huascar* went to sea, attempted to levy contributions from the ports on the Peruvian seaboard, and presently, growing bolder, molested several British ships, amongst which were the Pacific Navigation Company's mail steamers *Santa Rosa* and *John Elder*. As she was little better than a pirate, and as the Peruvian Government had disclaimed all responsibility for her proceedings, and even requested Chili to seize her, if she put into a Chilian port, Rear-Admiral De Horsey, the British commander on the station, decided to compel her surrender.

The *Huascar* was an iron turret-ship of 1800 tons displacement and eleven knots speed. She was a low freeboard vessel, protected on the water-line by wrought-iron armour 4½ inches, 3½ inches, and 2½ inches thick. Her single turret placed amidships, rather forward, was of Captain Coles' pattern, travelling on a roller-way, and was protected by 5½-inch plating. In it were two old-pattern 10-inch 12½-ton Armstrong muzzle-loaders. On her quarter deck, without any armour protection, were mounted two 40-pounders and one 12-pounder muzzle-loader. She carried one tripod mast,* on which was a military top protected by a breast-high plate of boiler iron and containing one Gatling. Her complement

* Originally she had two masts, but the foremast was removed.

numbered 200 to 220 officers and men. She was built by Messrs. Laird of Birkenhead, and launched in 1865.

The British ships on the station were the *Shah* and the *Amethyst*. The *Shah*, which carried Admiral De Horsey's flag, was a very large iron unarmoured cruiser of 6250 tons. She was wood and copper-sheathed for work on distant stations, and was ship-rigged. Her trial speed was 16·4 knots, and she was launched in 1873 at Portsmouth dockyard. Her armament was a formidable one, and such as it was thought would enable her to deal with even armoured vessels. On her upper deck she carried two 9-inch 12-ton muzzle-loaders, pivots, and eight 64-pounders; on her main deck sixteen 7-inch guns of similar pattern, eight each side. The weight of her broadside was 1680lbs. in fourteen projectiles. In her tops she carried Gatlings, and she had two launching carriages for Whitehead torpedoes. Her crew numbered 602 officers and men. The *Amethyst* was an unarmoured cruiser of 1970 tons, carrying fourteen 64-pounders, muzzle-loaders, and a crew of 226 officers and men. Of the British guns the 9-inch would nominally perforate 9·6 inches of wrought-iron at 1000 yards, and the 7-inch 7·5 inches. The 64-pounders were not supplied with battering charges, and were therefore useless against armour.

Leaving Arica at dark on May 22nd, the *Shah* steamed to Pisagua, where she discovered that the *Huascar* had been endeavouring to levy 12,000 dollars. On the 23rd Iquique was reached, when the *Amethyst*, which was lying there, joined the English admiral. Having obtained intelligence of the *Huascar's* whereabouts the *Shah* coaled and put to sea, detaching the *Amethyst*, which rejoined the flagship off Arica on the 25th. Both vessels then started north, the *Amethyst* keeping in shore, the *Shah* within signalling distance further out on her port quarter. On the 26th the *Amethyst* reconnoitred Ylo, and then proceeded south to endeavour to obtain intelligence. On the 29th, just after daybreak, she rejoined the *Shah* with the news that, on the previous day,

the *Huascar* had been bombarding Pisagua. The two ships, therefore, started south, the *Amethyst* still inshore. At 1 p.m. a steamer was sighted ahead, carrying Peruvian colours, and was soon recognised to be the *Huascar*, upon which the British ships at once cleared for action. The *Huascar* at first endeavoured to escape by getting into the shoal water close under the land, since her draught was only 14 feet to the *Shah's* 27 feet; but the *Amethyst*, close in shore, confused her, and prevented this attempt from succeeding. On this, she stopped just in front of the town of Ylo, and a British officer was sent off to her to demand her surrender. As the Peruvian captain refused to give up his ship, on the return of the boat the *Shah* fired first a blank gun at him, and then a shotted gun. At 3.6 p.m. the English flagship's port quarter-deck guns opened a continuous fire, to which the *Huascar* replied, at a range of 1900 yards, with one turret gun, as the other had not been run out, and the 40-pounder on her quarter-deck. The *Shah* steamed rapidly to and fro, whilst the *Huascar's* projectiles flew over her, and failed to strike her; but the very rapidity of the English ship's movements prevented her gunners from making good practice at the turret-ship, which lay very low in the water, and was an extremely difficult target to hit. The *Shah* could not close, as to expose her unarmoured sides to the *Huascar's* heavy guns at close quarters would be a very hazardous proceeding, nor could she, on the other hand, reduce her speed without running some risk of being rammed, as she was a long ship, and turned very slowly, whilst the *Huascar* was short and handy. At 3.26 the *Shah's* 9-inch bow gun was disabled by a Palliser shell jamming in the muzzle, and a quarter of an hour elapsed before it could again be brought into action. At 4.35 the heavy projectiles from the turret-ship dropped unpleasantly close to the *Shah's* bow, their splash, as they fell, wetting the men on the forecastle. The *Shah* had constantly to suspend her fire at the most favourable moments, for fear of dropping her projectiles into the town of Ylo, which lay

just behind the *Huascar*. The *Amethyst's* 64-pounders were not more useful than popguns, though her fire was very accurate and steady. At 5.11 the *Huascar* made an attempt to close, as if to ram, and the *Shah* opened on her with the Gatling in her fore-top. Three minutes later a Whitehead torpedo—the first ever used in actual war—was launched at the turret-ship; but the range was too great for it, and it had not speed enough to reach her. At 5.15 the *Huascar's* main-topmast cross-trees were shot sway, and her colours came down. For a minute or two it was thought that she had surrendered, but they were again hoisted. The bridge, her boats, and her funnel-casing were also struck repeatedly. At 5.45 the action ceased, as the *Huascar* was so close under Ylo that, to fire at her, would have imperilled life in the town.

As soon as it was dark, the *Shah's* steam pinnace and whaler were lowered, armed with Whiteheads and spar-torpedoes, to attack the *Huascar*; but, under cover of darkness, the bird had already flown, steaming along the coast. Next day she surrendered to the Peruvian fleet, and her existence as a pirate was over. She had been struck by sixty or seventy shots, mainly upon the projections from her upper deck—the funnel, ventilating cowls, bridge, mast, and boats—which were, indeed, all that the English gunners had to aim at. Pieces of shell were sticking into her woodwork, and there were numerous marks of glancing shot, and dents from direct hits on her side. One 9-inch common shell struck her 3½-inch plating two feet above the water-line on her starboard quarter, and perforated it, exploding in the backing The head splintered, killing a marine, and wounding one officer and two men; whilst the base of the shell flew across the ship, and struck the other side. On the turret was one dent, three inches deep, caused by a 7-inch shot. Several 64-pounder projectiles struck the armour, and left nothing but marks. The *Shah* discharged in the two-and-a-quarter hours, which the engagement lasted, 280 rounds, of which thirty are supposed to have hit the target,

the other hits having been scored by the *Amethyst*. This gives a little over ten per cent. as the proportion of successful shots. Had the *Huascar* been a high freeboard vessel, or had she been on the open water, where there could have been no risk of injuring the town, the damage would have been far greater. As it was, she was not in the least injured.

Neither the *Shah* nor the *Amethyst* had a single hit on their hulls, and all the damage inflicted upon them was the cutting of a few ropes in their rigging. Bad gunnery on the part of the Peruvians can alone explain this, since they had a very large target in the case of the *Shah*, and a good-sized one in the *Amethyst*. It has been said that the English ships constantly hit the *Huascar* at the maximum inclination of her roll, keeping her rocking, and disconcerting the aim of her men, but the story is not altogether probable. The *Huascar* seems to have had no difficulty in keeping her guns bearing on the *Shah*, in spite of her absence of ahead and astern fire. The advantages which her handiness and light draught conferred upon her in waters so shoal and reef-strewn as the Bay of Ylo are manifest. The speed of the *Shah*, on the other hand, was invaluable to her, as it enabled her to select her own distance, and avoid the *Huascar's* ram.

The disparity of force between the British ships and the *Huascar* is remarkable. On the one side were 8220 tons of shipping, carrying over 800 men and forty guns, one shot from each of which weighed 3706lb. The *Huascar* had little more than one-fifth of this tonnage, and only five guns discharging between them 692lbs. of projectiles. And yet the English vessels failed to capture or destroy their opponent! The explanation of their failure may be found in the fact that they were cruisers, constructed to fight cruisers, and not to encounter ships which, like the *Huascar*, were of quite a different class. The *Shah* had no armour, whilst the *Huascar* was completely protected. The *Shah* again carried guns which were unable in practice to pierce the most moderate

Plate XV. THE FRENCH CRUISER DUPUY DE LOME.

armour, though in theory they could easily have sent their shells through it. The failure of the 9-inch muzzle loader upon this occasion becomes of importance when we recall the fact that it is largely mounted upon our older ships, and on nine of them is the heaviest gun carried. Finally, the *Shah's* great draught of water hindered her manœuvres, and the vicinity of the town acted as a protection to the *Huascar*.

It is always possible that a cruiser upon a distant station may on occasions find herself compelled to fight a battleship. In view of such a possibility, most of the larger cruisers are given one or more armour-piercing guns. Thus the English *Blake* and *Edgar* class carry the 9·2-inch weapon; the French *Dupuy de Lôme* class, the 19-centimètre; and the Russian *Ruriks* the 8-inch. But, owing to the improvement in artillery, our smaller cruisers' guns could now pierce the *Huascar's* mail. No modern battleship is so invulnerable to small guns as were the monitors and turret-ships of the period from 1861 to 1875, and even in the *Royal Sovereigns* there is a considerable surface altogether unprotected, and exposed to projectiles from the lightest gun. At the same time it is just as hazardous a proceeding as it ever was for the cruiser to assail the battleship, to go out of her class, that is to say, unless she herself has armour.* But nations can never condone acts like that of Captain Craven, of the *Niagara*, who with two unarmoured ships refused the challenge of the Confederate ironclad *Stonewall Jackson*, because she had armour, and his ships had not.† The unarmoured cruiser's lot is not always a happy one.

An acrimonious diplomatic controversy followed this indecisive action, as the Peruvians were in great dudgeon at the *Shah's* attack on the *Huascar*. In view of the fact that

* ii. vol., 128-144.

† In February, 1865, the Confederate armoured ram, *Stonewall Jackson* blockaded at Corunna, the two Federal unarmoured ships *Niagara* and *Sacramento*. The Federal commodore, Craven, refused to fight, and for this was court-martialled, and suspended two years.

they had disclaimed all responsibility for her acts they had not any very serious grounds for complaint, and no satisfaction could be obtained from England.

II.—THE WAR BETWEEN CHILI AND PERU, 1879—1881.

Towards the close of 1878 difficulties arose between the South American republics of Chili and Bolivia in regard to the nitrate districts, to a portion of which Chili laid claim. As Bolivia was supported by Peru and would not grant the required concessions Chili declared war upon both states on February 5th, 1879.

Bolivia possessed no fleet at all, and Peru had only six serviceable ships besides some transports. Four of these were ironclads: the first, the *Huascar*, has already been described. The second was the *Independencia*, an armoured broadside vessel of about 3500 tons. She was protected by 4½-inch iron armour, had been built in England at Milwall in 1865, and had recently received new boilers, as also had the *Huascar*. Her battery consisted of two 150-pounder, twelve 70-pounder and four 30-pounder muzzle-loading rifled guns; to which on the outbreak of war were added one 250-pounder (8-inch, 9-ton) gun and one 150-pounder. The *Manco Capac* and *Atahualpa* were monitors of the *Passaic* type built in the United States.* Their armour was 5 inches thick on the side, and 10 inches on the single turret which mounted two smooth-bore 15-inch 440-pounder guns. Their displacement was 2100 tons; their low freeboard and wretched speed rendered them quite unfit for service at sea. The *Union*, an unarmoured wooden corvette of 1500 tons, had received new boilers just before the war, and carried twelve 70-pounder muzzle-loaders. Lastly, there was the gunboat *Pilcomayo* of 600 tons and six guns, 70-pounders and 40-pounders.

* The *Atahualpa* was always stationed at Callao, and the *Manco Capac* at Arica. Details of ships are given in Table XI.

The Chilian fleet included two fairly modern and powerful ironclads, the *Blanco Encalada* and *Almirante Cochrane* built in England from the designs of Sir E. J. Reed in 1874-5. They were central box-battery ships of 3500 tons, protected by armour 8 inches thick on the battery, and 9 inches amidships on the belt, which completely encircled the ship. They were armed each with six 9-inch 12-ton guns, two of which fired right ahead, two right astern, and three on the broadside. Each also carried one 9-pounder and one 7-pounder gun. All these weapons were rifled muzzle-loaders. The *Blanco Encalada* had two 1-inch Nordenfelts, and the *Cochrane* one. Their crew was 300 men, and they carried 254 tons of coal, or sufficient for one week's work at a constant speed of 10 knots. Their upper yards, topmasts and bowsprits were landed at the outbreak of the war. The hulls of both ships were in a bad condition; the *Blanco* was very foul, having never been docked since she came out, and the *Cochrane* was not much better, as there was no dry dock on the Chilian coast where they could be cleaned, though ships require frequent docking in these warm latitudes. The trial speed of the two had been from twelve to thirteen knots; it is doubtful whether they could either of them exceed nine knots in 1879. The *O'Higgins* and *Chacabuco* were wooden sloops of 1100 tons, each armed with three 115-pounder, two 70-pounder, and four 40-pounder muzzle-loaders. Their boilers were in very bad condition, and their speed was only eight or nine knots. They carried crews of 160 men. The *Abtao* was a similar vessel, with a similar crew, but carried only three 115-pounders and three 30-pounders as her armament. The *Esmeralda*, whose great deeds we shall have to chronicle, was the worst ship in the squadron; an old wooden vessel with boilers in the most shaky condition, and a speed of only six or seven knots. She was armed with fourteen 40-pounder muzzle-loaders. The *Magallanes* was a gunboat of 775 tons, carrying one 115-pounder, one 68-pounder, and two 20-pounders. The *Covadonga* was the small steamer captured

from the Spaniards in 1866, of six knots speed, and armed with two 70-pounders. There were also several armed steamers which had been taken over from the Chilian Steamship Company.

The Chilian fleet was, on the whole, very much stronger than the Peruvian, but it had one most fatal defect at the beginning of the war. Whereas three of the Peruvian vessels —the *Huascar*, *Independencia*, and *Union* could steam more than ten knots, there was not a Chilian vessel which came within a mile of them. This lends great interest to the strategy of the initial period of the war, which was thus fought something after the ideas of the *Jeune Ecole*. The Peruvians suddenly appeared off the Chilian ports, captured transports and merchantmen, and committed numerous depredations. The Chilians, for want of speed, saw themselves helpless; they could not redress the balance of speed by cleaning the bottoms of their ships, since, at Valparaiso, they had no dock which could take their ironclads. The Peruvians, on the other hand, had accommodation for the *Huascar* at Callao, and could keep her in good condition, whilst the Chilian ships grew slower and more foul. This weakness of Chili had serious consequences, as the physical configuration of both Chili and Peru made both singularly dependent upon the sea. Chili is the abrupt westward slope of the Andes to the Pacific, extending 2000 miles from north to south, with a breadth which never exceeds 140 miles. What railways there are run east and west; communication between the various settlements, dotted up and down the coast-line, is by sea. So, too, Peru, though an imposing spread of country on the map, is virtually a strip of coast, the settlements on which lie wide apart, sundered by salt deserts. Here, also, communication is by sea. The most flourishing Peruvian towns, with the exception of Callao and Lima, lie in the south, near the nitrate and guano deposits, which are the chief wealth of Peru. Whichever power then commanded the sea must inevitably reduce the other to submission.

Chili's difficulties were increased by the facts that she was unprepared, whilst Peru was ready, and that she had no fortified naval port in which to shelter her ships. Valparaiso was poorly defended, and little more than an open roadstead. Callao, the Peruvian base, was well protected by fortifications.

The first action of any note in the war is of striking importance, as showing what may be effected by a resolute man with odds overwhelmingly against him. Indeed, the gallantry which the Chilians displayed on this occasion, almost matched the splendid heroism of Greville and his sailors of the *Revenge*. In May, 1879, the Chilian admiral Rebolledo was blockading Iquique with the greater part of the Chilian fleet, when the news reached him that General Prado, the Peruvian President, was sailing south from Callao to Arica with a number of transports and warships. On this, Rebolledo at once went to intercept the Peruvians with his ironclads and sloops.* He left his two slowest and most worthless ships, the *Esmeralda* and *Covadonga*, at Iquique to continue the blockade, but failed to capture General Prado or to bring him to action, owing to a three days' fog, which enabled the Peruvians, sailing without lights, to pass the Chilians. Having reached Arica in safety, General Prado heard by telegraph that there were only these two feeble vessels off Iquique, and, wishing to destroy or capture them, he sent his two best ships, the *Huascar* and *Independencia*, south, to do the work. The *Huascar* was commanded by Captain Grau, and the *Independencia* by Captain Moore.

By daylight on the 21st of May the two were off Iquique, and were seen by the *Esmeralda*. This vessel was commanded by Arturo Prat, an officer of the most determined courage, and of great professional ability. He was thirty-one years of age, and the idol of his crew. Upon the approach of the enemy, he saw that to escape with his two slow ships

* Others attribute the Chilian movement to a desire to reconnoitre Callao. Markham, p. 108.

was hopeless. He decided then to fight to the last, though had he scuttled his ship and surrendered, no one could have blamed him, so terribly were the odds against him. Before his crew went to quarters, he made them a short speech which deserves to be remembered. "Children, the odds are against us, but our flag has never been lowered in the presence of the enemy, and I hope that it will not be to-day. As long as I live that flag shall fly in its place, and if I die my officers will know how to do their duty." The *Esmeralda* and *Covadonga* then cleared for action, whilst a Chilian transport in the harbour was sent off southwards for safety.

At 8 a.m. *Huascar* fired her first shot, which dropped between the two Chilians. A few minutes later the fight began, the turret-ship attacking the *Esmeralda* and the *Independencia,* the *Covadonga.* Nothing could exceed Prat's skill. He had placed his vessel close to the Peruvian town, so that, if the *Huascar* fired carelessly at her, shot and shell must fall into it, and cause the Peruvians damage. He was supposed to be surrounded by mines on the strength of information brought by the captain of the port, who had put out in a small boat to the *Huascar* before the engagement. The *Huascar* could therefore use neither her ram nor her guns with effect upon her small opponent. After an hour's desultory fighting the *Covadonga* began to steer south, keeping close inshore and almost on the breakers, whilst the *Independencia* followed on her heels. Meantime the Peruvians ashore had brought down a field battery to the beach and opened at a range of 300 to 400 yards upon the *Esmeralda* with this artillery and with small-arms. Boats also were putting off and endeavouring to board her and the *Covadonga.* So hot and galling was the fire of the guns on land that the *Esmeralda* was obliged to leave the protection of the shoal water, where she was safe from the *Huascar's* ram if not from her guns. At this point two of her boilers burst, and her speed sank to three knots. Three had been killed

and three wounded on board by the fire of the field battery, but not one as yet by the *Huascar*.

Soon after ten o'clock she had moved from her position, and at once the *Huascar* tried to ram her, as Captain Grau found that his fire was most ineffective, and would not be likely of itself to disable her. Indeed during the four hours which the action lasted, the *Huascar* fired forty rounds from her heavy turret-guns, of which only one shot struck the target. This passed through the *Esmeralda's* side, and bursting in the engine-room killed all the engineers and disabled the engines. The lighter guns were more effective. The Chilians in reply fired with great steadiness and accuracy, their feeble 40-pounder shells striking their enemy's turret and side repeatedly, but failing to do the slightest damage owing to the *Huascar's* armour. About 10.30 the *Huascar* rammed for the first time. At the rate of eight knots, steering north-east she struck the *Esmeralda* which was nearly motionless, on her port quarter. One length off the Chilian ship the *Huascar's* engines were stopped, but either because of this, or because the *Esmeralda* veered as she was struck and only caught a glancing blow, little damage was done. For an instant the two vessels were in contact: Arturo Prat's moment had come. In the din and confusion his voice was heard crying, "Children on board her," and he himself leapt on the *Huascar's* forecastle, followed by only one man, a sergeant of marines. The rest of his crew, though their courage was equal to his, did not hear what he said, or could not follow him before the ships separated. Sword in hand Prat rushed aft, but just as he neared the turret a bullet struck him and killed him. By fortune's will he fell fighting against heavy odds on the *Huascar's* deck, where months later his antagonist Grau was also to die, also with odds against him.* Arturo Prat, by his glorious death, left a memory which is revered by all Chilians,

* Grau tried vainly to save Prat's life. He called to him, "Surrender, Captain! we desire to save the life of a hero!" But Prat would not listen, shot

and by all who admire heroic deeds. The finest ship in the Chilian fleet now bears his name.

The command of the *Esmeralda* passed to Lieutenant Uribe. Her decks were covered with dead and wounded, but she still fought on. The *Huascar* having backed clear rammed her again, heading southwards; but this time the *Esmeralda* succeeded in presenting her bows to the enemy, who came on, but, stopping too soon, struck her a glancing blow on the starboard bow. At this moment Lieutenant Serrano, followed by a boarding party, leapt on board the Peruvian ship, but could do nothing, as the ships parted before more than a handful of Chilians could pass on to their enemy's deck. All the party were shot down, but had they been more numerous, the *Huascar* might have been carried. Her crew, according to Captain Grau, were demoralised by the steady fire of the *Esmeralda*. One solid shot had entered a turret port and flown round the interior without harming anyone; had it been a shell the result would have been very different. The tripod mast had been hit and was in danger of falling, when it would probably jam the turret. The Chilian rifle-fire was so rapid and well maintained that it was taken to be from machine guns. The *Independencia* had vanished to the south; a few more minutes and the *Huascar* might find herself helpless. But her ram had done the *Esmeralda* great damage, though the heavy guns had effected little. The magazine in the Chilian ship, was flooded and there were no cartridges left. The rudder had been shattered by a shell, and the interior of the vessel was like a shambles. The doctor and all the wounded had perished by the projectile which burst in the engine-room. It was a sinking ship which the *Huascar* rammed for the third time, going full speed. Her engines were stopped when only twenty feet off, and, striking squarely the *Esmeralda's*

down a man, and had to be killed. Grau's care for the dead body of the Chilian national hero was touching, and when in his own turn he fell as gallantly, his death caused deep sorrow and regret in Chili.

starboard beam, her ram plunged into the Chilian ship's side. When she backed out the *Esmeralda* went to the bottom with colours still flying. Of her crew, which numbered 200 officers and men, only sixty-three were saved.

Whilst the *Esmeralda* was fighting to the death, the *Covadonga* had been manœuvred with great skill and coolness. She had an English pilot on board, who led the pursuing *Independencia* as close inshore and as near the breakers and reefs as he could. The Peruvian gunners were raw and untrained; though often only 200 yards off the target they could not hit it. The Chilian gunnery was admirable: the bow pivot of the *Independencia* was dismounted after it had only fired one shot, but that one shot, striking for a wonder, had raked the little gunboat. The Chilian small-arms' men poured in a hail of bullets upon all on their enemy's deck, and in succession wounded three helmsmen. Captain Moore, of the *Independencia,* began to fear that in spite of his superiority in speed his nimble foe would escape him. He decided, therefore, to ram, and trying, twice failed. A third attempt was made off Punta Gruesa. The *Covadonga*, now but 100 yards from the shore, had touched a reef, but, owing to her light draught, came off without damage. Steering south-south-east, her heavier antagonist ran at her, aiming a blow at her starboard quarter, missed, and struck the rock with great violence. At the critical moment the fire from the *Covadonga* had killed the man at the *Independencia's* wheel, and prevented him from porting the helm. Once fast on the rock the Peruvian ironclad was helpless. The *Covadonga* instantly steamed round her, and taking up a position astern where the Peruvians could not bring a gun to bear, plied her hotly with 70-pounder shells. In a few minutes the ironclad's stern was on fire, and it is asserted by the Chilians that a white flag was displayed. Fortunately for the Peruvians help was at hand.

The *Independencia* had struck at 11.45; the *Esmeralda* sank about midday. The *Huascar* picked up all the Chilians

who could be found in the water, and then proceeded in search of her consort. The *Covadonga* sighted her at a distance of ten miles, and at once made off southwards, as she had no wish to encounter a second ironclad. Seeing the *Independencia* inshore, Captain Grau ran in to speak her, and the delay necessary to effect this gave the *Covadonga* a start which saved her. Ascertaining that the grounded ship stood in no need of immediate assistance, being indeed past help, Grau continued the chase along the coast till dusk, when the *Covadonga* was still ten miles away; but as smoke was reported in the offing to the north-west, and as the arrival of the Chilian ironclads was apprehended, the chase was then abandoned. Returning to the *Independencia* Grau took off her crew and burnt her, since she could not be moved.

The brilliant audacity of the Chilians had thus reaped a great reward. The *Esmeralda*, it is true, was at the bottom, but she was an old tub, worth very little, and in any case she had not been transferred to the Peruvian fleet. In sinking her the *Huascar* had received very considerable damage, as her bow plates, with their backing, had been broken, and the turret was out of the centre line. Worst of all, the *Independencia*, the second best ship which the Peruvians possessed, was now a mere wreck. Of course the Chilians had the best of the luck all through, but when men display their courage they may expect to be favoured by fortune. The borderland between courage and rashness, between audacity and recklessness, is a disputed one. Yet neither of the Chilian officers deserves the appellation of rash or reckless. Finding escape impossible, they both determined to sell their ships dearly, and thus in the end the *Covadonga* escaped unhurt, whilst her strong and fast opponent was disabled. Had the gunnery of the Peruvians been accurate, their two ships, with their superior speed, must have easily destroyed their opponents. The disproportion of strength between the two sides was ridiculously great, but here for

once the unexpected happened, and it was the weaker, the beaten side which scored the victory.

The *Huascar*, in spite of her injuries, did not directly return to port, but cruised down the coast next day, and off Antofagasta exchanged shots with the *Covadonga*, which was lying under the guns of a Chilian battery. The *Covadonga*, since she received two shots in her coal bunkers, besides the projectile which raked her in the action of the 21st, showed no inclination to come out for the *Huascar's* gratification, and the latter then retired. The news of the battle was received with great discontent in Peru, and Captain Moore, of the *Independencia*, was placed under arrest.

The next incident of the war was an attempt of the *Huascar* to ram the *Magallanes* in Iquique harbour, on the night of July 9th-10th, 1879. The *Magallanes* was lying off the town, blockading it, when the *Huascar* suddenly steamed in, about 2.30 a.m., and attempted to sink her. Three times she endeavoured to strike the Chilian vessel, which each time eluded her, though at least two knots slower. Meantime, the two ships were firing at each other, the *Huascar* invariably missing. Just as the *Magallanes* had hit the *Huascar* with a 115lb. shell on the water-line, the latter made off, having sighted the *Almirante Cochrane* in the offing.*

The next three months of the war, the Peruvians pursued to the letter the method of warfare recommended by the *Jeune École*. They harried the Chilian coast, and practically cut off the Chilian army in the north from its base, since transports could not be sent without the escort of the two ironclads, and, these gone, there were no ships left to protect the Chilian littoral. None of the Chilian vessels were fast enough to overtake the turret-ship, and the Peruvians had given Captain Grau strict injunctions on no account to risk an action. Amongst other prizes, the *Huascar* captured a

* The versions of this action differ. In the text, the official report of the Chilian commander has been followed. Année Maritime, 1879, page 43-4.

transport, the *Rimac*, with a regiment of cavalry on board.* At last, finding the want of speed intolerable, and dissatisfied with the conduct of the war, the Chilian Government recalled Admiral Rebolledo, replacing him by Commodore Riveros. The *Cochrane's* commander, who also had not given satisfaction, was replaced by Captain Latorre, of the *Magallanes*. The *Cochrane* was taken to Valparaiso, her engines overhauled, and placed in thorough order, whilst her bottom was cleaned by divers. This consumed over a month, but, when it had been done, her speed was eleven knots, a knot faster than the *Huascar*.

On August 27th, the *Huascar* visited Antofagasta, and found there the Chilian warships *Magallanes* and *Abtao*, under the shelter of the guns of the forts. The *Huascar* had just been fitted with the Lay torpedo, and proceeded to use it against the *Abtao*. On entering the water, however, it turned and came straight back on the *Huascar*. The turret-ship was in imminent danger, when Lieutenant Canseco leapt into the water, and guided the treacherous weapon aside.

The *Cochrane* was ready for sea at the end of September, and joined the fleet under Riveros immediately. The ships at his disposal were arranged in two divisions. The first was composed of the slower vessels, the *Blanco*, *Covadonga*, and *Mathias Cousiño*, under Riveros himself; the second, of the faster *Cochrane*, *Loa*, and *O'Higgins*, under Captain Latorre. The two divisions proceeded first of all to Arica, where the *Huascar* was supposed to be lying. Torpedo boats were sent in advance to attack her there, but returned with the news that she was not to be seen, and that the only Peruvian vessels in the port were the gunboat *Pilcomayo* and the old monitor *Manco Capac*. Riveros very wisely decided not to impair the efficiency of his squadron by attacking two vessels which were ill armed and useless for work at sea. His business was with the *Huascar*, and, till she was

* Besides the cavalry, she was carrying a large quantity of arms, ammunition, and provisions, with 500,000 dollars.

captured, they might wait. He obtained some useful information from fishermen, to the effect that, on the previous day, the *Huascar* and *Union* had been seen steaming south. South, then, he turned, and, reaching Mejillones, coaled there on the 6th. At midnight, October 8th, he was ready again, and the following plan, which had been prepared, was put into execution. The slower ships of the first division steamed down the coast, looking into all the bays; whilst, fifty miles from them, followed the fast second division on their starboard quarter, much farther out. If the *Huascar* and *Union* were sighted, the slower ships were not to chase, but rather to endeavour to get between the Peruvians and the shore; and then, circling, to drive them north-west into the arms of the second division. The plan was not, however, executed quite as had been intended, as, at the last minute, orders were received by telegraph for Latorre's division to cruise off Angamos Point, where the *Huascar* was to be expected.

At 3.30 a.m., October 8th, the weather being fine and clear,* the look-out of the *Blanco*, which was now some miles south of Angamos Point, and near the shore, reported the smoke of two vessels six miles off, approaching from the south. It was not light enough to recognize them, but at daybreak they were seen to be the *Huascar* and *Union*. On discovering his enemies, Captain Grau, who had been promoted rear-admiral since the action with the *Esmeralda*, had changed his course from due north to south-west, and had ordered full speed. With sixty revolutions, twenty-five-and-a-half pounds steam pressure, and a speed of nearly ten-and-a-half knots, the turret-ship rapidly left the *Blanco* and *Covadonga*, which could only do seven-and-a-half knots, behind. The *Mathias Cousiño* had been sent in shore since she was a craft of no fighting value. Distanced as he was by the Peruvians, Riveros held steadily on, not so much in the hope

* "Thick and foggy," says Markham. Lieut. Mason (U.S.N.) is followed in the text.

of overtaking them with his ships, though there was just a possibility that the *Huascar's* machinery might give way, as trusting that the second division might put in an appearance and head them off. Grau might perhaps at this period have attacked the *Blanco* with success, as he had two fast vessels, one an ironclad, against one ironclad and one small gunboat, both very slow ships. But his orders were peremptory, forbidding the hazard of an engagement, and thus the strategy of the *guerre des côtes* which had enabled him to score his successes, also brought about his defeat by preventing him from availing himself of his only opportunity.

Finding that he was easily running away from the Chilians, Grau changed his course towards the north at 5.40, and eased his engines down to fifty-three revolutions. As he had been on deck all night, he turned in for some sleep, trusting that his dangers were past. At 7.15, however, the look-out reported smoke on the horizon to the north-east, and at once summoned the admiral. Simultaneously the *Huascar's* smoke was seen on board the *Cochrane*, and the *Loa* was sent south-east to reconnoitre, whilst the *Cochrane* steamed due east. The *Huascar* meantime had turned a point or two to the west to discover what the ship was that was approaching.* At 7.30 it was made out to be the *Cochrane*, and at the same time the *Huascar* was recognised by the Chilian second division. Grau still had good hopes of eluding his enemy: he does not appear to have been aware of the *Cochrane's* refit, and though his position was awkward with hostile squadrons ahead and astern of him, it was not desperate, if he could out-steam the *Cochrane*. He stood on towards the *Loa* for some minutes; then, as it became evident that the *Cochrane* was crossing his course with unexpected rapidity, he ordered full speed and headed again to the east. At 7.45, either on her own initiative or at an order from Grau, the *Union* dashed

* The *Huascar*, at first, mistook her for a transport.

off at full speed and succeeded in getting away to the north, though closely pursued by the *Loa* and *O'Higgins*. At 9 a.m. the three ironclads, *Huascar*, *Cochrane*, and *Blanco* were distant from each other 8000 yards, and the *Cochrane* was coming up so fast that it was evident that she would cross the *Huascar's* bows. Grau's hope of escape was gone, and it was now necessary for him to fight two ships, both better armed and armoured than his own, and one faster. At 9,10 the men were sent to quarters, and the admiral entered the conning-tower alone. There was a fresh wind from the south and a rough sea, which hampered his low freeboard vessel very considerably. Whilst the steering-tackle was being shifted from the ordinary wheel on deck to the protected one under the conning-tower, the ship was for a minute or two unmanageable, and during that time yawed to the west.*

The first shot was fired from the *Huascar's* turret at 9.25, the *Cochrane* then being 3000 yards distant. It missed as did two others, but a fourth shell ricochetted from the water and struck the *Cochrane* forward on the unarmoured part of her bow. As it did not explode there was no damage done. The *Cochrane* did not retaliate until she was only 700 yards off, and then fired a broadside. The *Blanco* was still 8000 yards or more to the south when the action became continuous.

One of the *Cochrane's* first shots came through the *Huascar's* 3½-inch armour on the port side, and, entering the turret chamber, just below the base of the turret, exploded, set the woodwork on fire, killed or wounded twelve of the men at the winches which revolved the turret, drove fragments of iron and wood into the turret roller-way, and temporarily jammed the turret. About the same time a 300-pounder chilled Palliser shell, from the *Huascar*, struck the *Cochrane* on her 6-inch side-armour, heavily indenting one plate, breaking several bolts, and crushing in the backing, but failed to perforate.

* This is not shown in the diagram, p. 326.

The *Huascar* found herself in difficulties. Almost all her armament was concentrated in one turret forward, but, as she had a forecastle, the heavy guns could not fire ahead, and of course the funnel and works aft prevented them from being trained astern. Thus they would only bear through an angle of about 130 degrees on either broadside, and if the Chilian ship was either much ahead or much astern she was out of their arc of fire. The *Cochrane* on the other hand could bring at least one heavy gun to bear in any direction. Further the *Huascar's* top was low down on her mast, and had no hood above it; it was thus exposed to the fire of the small-arms' men in the *Cochrane's* three tops. Four men had been placed in it, in charge of a Gatling; three of these were quickly killed, though protected by breast-high boiler plate, and the fourth went down. In consequence, the *Cochrane's* deck was safe for her crew, an inestimable advantage in an engagement, whilst no one could show himself on the *Huascar* without being at once picked off either by the rifles in the *Cochrane's* top or by the Nordenfelt on her bridge. The *Cochrane* by maintaining, as far as possible, a position well astern of the *Huascar*, was out of the arc through which the Peruvians heavy guns would bear.

The two ships were now steering an almost parallel course,* when a 9-inch shell from the *Cochrane* struck her opponent's conning-tower, which was protected by 3-inch armour, and of hexagonal shape. Admiral Grau generally directed the ship from the top of it, as it had no cover, standing inside with his head and shoulders exposed. The shot must have struck near the top of the tower probably about Grau's waist. He was blown to pieces, only one leg being afterwards found, and the tower was terribly shattered. Fragments of flesh and iron with dense clouds of smoke were driven down by the explosion on to the lower deck. The sailors there, fearing that their commander was injured, went at once to his assistance.

* *See* diagram.

G. Philip & Son.

MAP XVII.

Groping in the smoke and darkness of the conning-tower they found a body which they removed, but when brought to the light it was seen to be that of Lieutenant Diego Ferré. There was no wound, not even a scratch, yet he was dead, killed probably by the violence of the concussion. He had been in charge of the steering-wheel just below the admiral, and separated from him only by a light wooden grating which served as the floor of the tower. The steering-gear was disabled by this shot, and it is doubtful whether after it the *Huascar* was ever really under control. Whilst efforts were being made to repair the damage she fell away from her course, making a great circle to starboard, in which the *Cochrane* followed her. The conning-tower was quite useless, and the steering had to be done from the turret. A few minutes later a shell perforated this also, striking it, to the left of the right gun port, and bursting against the right trunnion of the right gun. The roof of the turret was damaged, and almost all those in it were injured, including the chief of the staff, Captain Manuel Carbajal, and the two captains of the guns. The turret presented a horrible appearance, bespattered with blood and brains. The right gun was disabled by the breaking of its right compressor and injury to its cap-squares. A relief crew was sent, however, and the fight went on, the left gun being fired from time to time. As Lieutenant Rodriguez was looking out of the left port he was struck by a shell and his head was taken off. Shaken by these heavy losses and the terrible fire which was being concentrated upon the turret, the *Huascar's* men became demoralised and lost heart. The cabins and ward-room were rapidly filling with officers and men, panicstruck or grievously hurt, but there was as yet no thought of yielding.

About this time the *Cochrane* made an attempt to ram, but missed and passed five yards astern. As she passed, a broad-side from her struck the *Huascar*, and one shell entering that vessel's starboard quarter, exploded, and disabled the steering-

gear once more, doing much other damage. The *Huascar's* head was now pointing almost due east, and the ship was again quite out of control. A shell perforated the 4½-inch armour on her starboard side, and exploding, killed Surgeon Tavara, many of the wounded, and Captain Griffiths, the master of a schooner which had been captured some days before. The steering tackle was, however, once more put into working order, and Commander Aguirre conned his ship from the sighting-hood of the turret, his orders being passed aft by a string of men. At 10.10 the *Cochrane* made a second attempt to ram, but again missed through an accidental movement of the *Huascar*, passing 200 yards astern of her this time. The *Blanco* had at last arrived on the scene of action, and her first act was to all but ram her consort. Only by turning very sharply to port, whilst the *Blanco* went ahead, did the *Cochrane* avoid a collision, and thus she lost her advantageous position and gave the *Huascar* a brief respite. The *Blanco* now found herself engaged by the *Huascar*, which headed boldly at her, as if to ram, whether by accident or by design is uncertain. The *Blanco* easily eluded her blow, and poured a most destructive fire into her stern. Exploding shells killed all the men at the improvised steering tackle, killed many of the wounded, and killed or wounded several of the refugees who had gathered in the officers' quarters. There was no place of safety left in the riddled ship for the wounded except the coal-bunkers, and thither these unfortunate creatures were moved, to lie in a hot stifling atmosphere amongst the coal and coal-dust.

The *Huascar* was now heading north-east. A shot next struck her funnel, driving soot, fragments of iron, and smoke down into the stoke-hold, and rendering it quite impossible to see the water gauges. In consequence the water in the boilers fell too low, and some tubes having burnt through, there was a great escape of steam, which led the Chilians to believe that they had hit the boilers. At 10.25 there was a lull in the engagement, as the *Huascar's* colours were shot away,

PLATE XVI. THE PERUVIAN TURRET-SHIP HUASCAR.

and it was thought that she had surrendered. The pause was not for long. A gun-loader went aft, and adventuring himself upon the fire-swept deck, hoisted another flag. At once the Chilians resumed their deadly and accurate target practice. Once more they hit the turret, and the shell, bursting inside, killed or mortally wounded everyone in it. Commander Aguirre, upon whom the charge of the ship had devolved, was killed by this shot. He was standing a little to the left of the breech of the left gun, at the sighting-hood, when the explosion came. The top of his head was taken off, he had four wounds on the left leg, a cut on the stomach, six wounds on the body, and an arm and shoulder torn off. Lieutenant Palacios, who was in the turret, was horribly wounded. The command had passed to Lieutenant Garezon, once fourth officer. The ship was no longer manageable; she was on fire in more than one place; all the trained gunners lay in mutilated fragments in the turret, or were grievously wounded; but still the fight went forward. The engines were kept going, and a third crew, manning the left turret-gun, fired it at intervals. But the end was near. The *Cochrane* made an attempt to ram, when, as so often, a chance movement saved the *Huascar*. Both Chilian ships were now close upon her, still maintaining their overwhelming fire. The *Covadonga* too came up, and as if to claim a share in the fight, fired one gun at the turret ship. It was now that a shot, fired probably by accident from the *Blanco*, struck the *Cochrane*, and entering her unarmoured stern, wounded ten men, two mortally.

The *Huascar's* plight was desperate. She could scarcely move, as her fires had fallen through the choking of the funnel. Lieutenant Garezon therefore determined, at 10.50, to sink her. He sent orders to the chief engineer to open the valves and let in the water. But meantime some of the crew, who were not minded, having fought with such gallantry, to lose all, had gone forward and waved towels. On this both the *Cochrane* and *Blanco* had sent boats with

surgeons and engineers. Boarding the *Huascar*, they found her engineer engaged in opening the main injection valve, and at once stopped him. Their next work was to get the fires out and attend to the wounded. Whilst endeavouring to effect the former object, Lieutenant Simpson, of the *Cochrane* asked one of the *Huascar's* surviving officers where were the pipes to flood the magazines. That officer told him that it was useless to look for the pipes, as the valves were open and the ship was sinking; upon which Lieutenant Simpson gave him clearly to understand that no one would be permitted to leave the ship, but that all would either be blown up or drowned with him. Needless to say the pipes were found. The interior of the ship was in a horrible condition: "On the main deck the wardroom and stern cabin were quite destroyed; there was hardly a trace of the bulkhead; the contents of the state rooms were strewn about the flooring, and the upper deck ceiling was one mass of powder and disintegrated human remains. The engines and boilers, and the turret-winches were untouched."*

Altogether the *Huascar* was hit by heavy projectiles twenty-seven times. Of these, thirteen were severe blows. The turret was perforated twice, besides receiving a glancing shot. The conning-tower was struck three times. Five heavy shells exploded between decks, three in the neighbourhood of the stern. In spite of the severe trial the turret had undergone, it worked well at the end of the action. The gunnery of the Chilians must have been excellent, especially when we remember that the sea was rough. The *Cochrane* fired forty-five 9-inch Palliser shells, twelve 20-pounder shells, fourteen 9-pounder, and two 7-pounder, with about 300 shots from her Nordenfelts and 1000 rifle cartridges. The *Blanco* discharged thirty-one heavy shells, and the *Huascar* about forty. The *Blanco* was quite untouched, whilst the *Cochrane*

* "Dead and mutilated bodies were lying about in all directions, whilst the captain's cabin was blocked up by a heap of mangled corpses. Both upper and lower decks presented a shocking spectacle." Markham, 130-1.

was hit three times, in addition to the shell which has been mentioned as having been probably fired by her consort. One hundred-and forty prisoners, thirty-five of whom were English, were taken on board the *Huascar*. The Peruvian killed and wounded numbered sixty-four.

The battle of Angamos is as noteworthy as the battle of Iquique for the heroism displayed by the beaten side. It was fought at very close quarters, a fact which must not be forgotten, when the easy perforation of the *Huascar's* armour is considered. This armour was at its thickest 5½ inches on the turret; on the bow and stern, where it was thinnest, it was only 2½ inches. It was attacked by 9-inch shells, having a nominal calculated perforation of 9·6 inches of wrought iron at 1000 yards. The armour was of wrought iron, and, having been forged in the year 1865, was probably not of the very highest quality. The *Cochrane* and *Blanco* had plating 6 inches thick at the thinnest point. This was attacked by 300-pounder 9½-inch shells, which should have perforated 10 inches of armour at 1000 yards, but failed in the battle to get through 6 and 8 inches. The *Huascar's* thin plating is said to have been a positive disadvantage to her, by exploding every shell which struck her. But against the *Shah* it had saved her.

The uselessness of the ram is a striking feature of both this battle and of the engagement at Iquique. On that occasion it was employed six times—three times against the *Esmeralda*, once with fatal effect to the rammed, and three times against the *Covadonga*, once with fatal effect to the "rammer." The *Esmeralda*, with her very low speed, ought, one would have thought, to have fallen a ready victim. Instead, she withstood or avoided two blows. Off Angamos, there were five attempts to ram—three made by the *Cochrane* and two by the *Huascar*—and all were unsuccessful. As the *Huascar* was out of control for at least the last half-hour, and as her speed must then have been very low, this is remarkable, and points emphatically to the conclusion that in practice it will

be found impossible to ram a ship on open water so long as she is under control.

The *Huascar*, after her capture, was patched up by the Chilians* and taken to Valparaiso, where she was repaired, and received two new 40-pounder Armstrong breechloaders. Her transference to the Chilian fleet destroyed Peru's chance of facing Chili at sea, and gave the latter power the command of the sea—a command which was used with judgment and skill. Henceforward the Chilian towns were freed from the risk of bombardment, and operations were transferred to the northern waters of Peru. Though between them Peru and Bolivia had armies of 88,000 men in the field, a Chilian expeditionary force of 30,000 was enabled to strike at their isolated detachments, and destroy them in detail.

A short space will suffice for the remaining events of naval interest in the war. On November 15th, the *Huascar* went to sea under the Chilian flag, and a little later the gunboat *Pilcomayo* was captured, taken to Valparaiso, and re-armed with two long 100-pounder breechloaders. A cruiser, the *Angamos*, was purchased in England and armed with an 8-inch breechloader. Thus reinforced the Chilian fleet steamed to Callao, and early in the morning of April 9th, 1880, despatched two torpedo-boats, the *Janequeo*, a 100-foot Yarrow-built boat steaming nineteen knots, and the *Guacoldo*, a fifteen-knot American-built boat, to attack the *Union*, the last sea-going vessel left of the Peruvian fleet. The boats were sent under the convoy of the *Huascar*, but, parting company with her, lost each other. The *Janequeo* in the darkness could not find the entrance to the harbour, and went too far to the north. The *Guacoldo*, equipped with two McEvoy duplex outrigger torpedoes, found her way in, but colliding with a fishing boat damaged one. The fishermen however pointed out the *Union* to her; yet on steaming towards that vessel she found

* The shot holes were very large and irregular. They were temporarily closed by placing planking outside and securing it to a bar inside by nuts and bolts.

her protected by a boom, against which her other torpedo exploded without effect. Though a hot fire was opened upon her by the Peruvians, she succeeded in escaping without a single casualty. The Chilians then proceeded to blockade Callao with the ships *Blanco*, *Huascar*, *Angamos*, *Pilcomayo*, and *Mathias Cousiño*, and as the town depended upon the sea for provisions, almost reduced it to starvation. At intervals they tried long range bombardments, wishing particularly to disable the *Union*. On the 22nd of April the squadron fired into the harbour eighty-one shells at 5000 yards range. Several of these dropped near the *Union*, but no damage was done beyond the hitting of the *Rimac*, the troopship captured by the Peruvians. On May 10th there was another bombardment, and this time the *Union* was struck by a shell which set her on fire but did little damage. So accurate was the aim of the Chilians, that it was noticed that almost every shell exploded in the forts or the harbour, and yet in truth the effect was *nil*. The Peruvians, however, thought it wiser to remove the *Union* and the *Atahualpa* into dock, where they lay during the rest of the siege. On May 25th there was an action between the torpedo-boats of either side. The Chilian boats were found very useful for the blockade, since their small size rendered it possible for them to run in close to the forts at night and watch what was happening. On this occasion the *Guacoldo* and *Janequeo*, whilst thus keeping watch, engaged three launches. The *Janequeo* ran forward and exploded her torpedo against one of them, but was herself a good deal damaged by the explosion, and sank ten minutes later, her men getting away in her boat.* She was raised a few days later. Meantime the *Guacoldo* had captured another of the launches. On July 3rd the *Loa*, an armed transport, was destroyed by a Peruvian strata-

* The Peruvians attribute this to a 100lb. case of powder which the commander of the Peruvian torpedo-boat is said to have thrown on her deck, and exploded by firing his revolver.

gem which almost deserves a harsher name. A boat containing 300lbs. of dynamite, covered with fruit and vegetables, was set adrift. The captain of the Chilian *Loa* saw it, and though orders had been issued to the officers of the squadron to be on their guard against hidden torpedoes, he towed it to his vessel. As he was unloading it, the charge exploded with a terrific report, blowing the side of the *Loa* out and sinking her. One hundred men were killed, and fifty, badly burned and wounded, were rescued. In revenge for this the Chilians bombarded the town, and the *Angamos* made another attempt to destroy the *Union*, firing from twenty, to twenty-five rounds a day from her 8-inch gun at a range of 8000 yards. Her shells always went near the ship, but as it was protected by sandbags did no damage. At last, however, she succeeded in effecting one hit, when after four days' firing she discontinued the bombardment. On September 13th, 1880, the *Covadonga* was destroyed, thirty miles north of Callao, exactly as the *Loa* had been. An empty boat was seen adrift; it was carefully examined, but nothing could be seen amiss with it. Accordingly it was brought to the *Covadonga* and was being hoisted on board, when a mine concealed in it exploded, sinking the ship and killing fifty men. Fifty more were made prisoners and fifteen escaped. On October 13th an attempt—the second—was made to destroy the Chilian ironclads off Callao, by placing mines close to their mooring ground, but the mines exploded without doing any damage.

Another event of importance occurred earlier on June 6th, during the bombardment of Arica. On that day the *Cochrane*, *Covadonga*, and *Magallanes* were engaged in shelling the town, at distances varying from 1000 to 8000 yards, when a shell entered the *Cochrane* through her foremost gun-port on the starboard side. The gun had just been fired, and Numbers Three and Four after sponging it out were placing the 50lb. charge of powder in the muzzle—it was a 9-inch muzzle-loader—when a 7-inch shell from the forts flew

in and burst against the slide. Numbers Three, Four, Six, and Seven, the powder-man, and the gunner were flung down; the fire from the shell exploded the charge which was being placed in the gun; and both gun and gun-crew were enveloped in smoke and flame. The extra powder-man was hurled down, and, the lid falling off his powder case, the powder which he was carrying added its force to the explosion, burning badly the crew of the foremost gun on the port side and filling the battery with smoke. The scene inside the battery was one of great confusion. The men who had not been injured, at the other guns, almost suffocated, rushed to the portholes and hatchways for air, whilst others fearfully burnt and scorched ran screaming to and fro. The ship at once steamed out of range, but it was fully five minutes before order could be restored. Seven were killed and twenty-one so badly burnt that they would not be able to serve again. The gunner and one or two others who were almost in the centre of the flame owed their lives to the fact that they were dressed in serge, which did not easily take fire. Those in cotton working dresses were terribly injured. In the battery were about 600lbs. of powder in battering charges. The roominess of the casemate and the fact that a very large hatchway was open just above the two forward guns, allowing the flame to escape, probably saved the ship from disablement if not from destruction. The danger of having large quantities of powder on deck is clearly shown by this incident. At the Yalu a similar accident occurred, whilst at Lissa the ironclad *Palestro* was destroyed by the explosion of an emergency magazine.

CHAPTER XV.

The Bombardment of the Alexandria Forts.
July 11th, 1882.

At the beginning of July, 1882, a powerful British squadron was present at Alexandria, under the command of Admiral Sir Beauchamp Seymour. This squadron had been despatched by the English Government to overawe Arabi Pasha, who, as the Khedive's Minister of War, and head of the so-called national party in Egypt, was threatening to make himself supreme in Egypt. The populace of Alexandria, one of the most turbulent in the world from time immemorial, had on June 11th broken out into savage riots, attacking and assassinating several Europeans. Matters went from bad to worse: the Khedive became the unwilling puppet of Arabi, and Europeans in hundreds fled the country, whilst the English fleet looked on.

The ironclads *Invincible*, *Monarch*, and *Sultan* were lying inside the harbour, and to the former Admiral Seymour had shifted his flag from the *Alexandra*, which drew too much water to get in with ease. Meantime, it was noticed from the ships that the fortifications which line the southern shore were being strengthened by the Egyptians, and that numerous guns were being mounted. These works bore on the ships, and threatened the ships. Thereupon a polite communication was addressed to the Egyptian Government, requesting the stoppage of all defensive works, under penalty of bombardment. In reply, the admiral was assured that no such works were being constructed, and profuse appeals were

made to his humanity. These were backed up by the foreign consuls, with the warning that a bombardment would be certain to destroy neutral property. Admiral Seymour was by no means convinced by these assurances; the works could be seen progressing night after night; and very wisely he kept a sharp look-out upon the Egyptians, making quiet reconnaissances during the day on land, and using his search-lights after dark. The arming of the forts was continued with the frankest impudence, and by the *Alexandra's* projectors soldiers could be seen busily employed on the works. The matter came to a head when Lieutenant Smith-Dorrien, whilst ashore on leave, noticed two guns being mounted upon Fort Silsileh. He submitted an affirmation to the admiral, on the strength of which a council of war was held on board the *Helicon*, and the decision to forward an ultimatum to the Egyptians was arrived at. The Egyptians were therefore warned that unless the batteries on Ras-el-Tin and the south side of the harbour were "temporarily surrendered for purposes of disarmament," the British squadron would attack them. To this, with more virtuous protestations, Ragheb Pasha replied that he would dismount three guns on the batteries named. An exodus of foreigners, who yet remained in the city began at once.

Admiral Seymour was not the man to be cajoled with delusory assurances. Finding that the Egyptians had no intention of complying, on July 10th he informed them that if the works were not given up at once he would bombard on the 11th. All that day neutral shipping was leaving the harbour, whilst there was a bustle of preparation on board the English ships. In the course of the morning Ragheb Pasha came off to the *Invincible* to ask, virtuously, what all this meant. He was informed of the English demands and departed disconcerted. The British ironclads began to take up their stations, and one by one the foreign men-of-war present left the harbour, whilst the British ships' bands played them out. The telegraph ship *Chiltern*, which was in port, had picked up the submarine

cables to Malta and Cyprus, establishing an office on board. Thus hour by hour intelligence was telegraphed from Alexandria to London, and almost before the event had happened, the news of it was received in London, since London time is two hours behind Cairo.

The English fleet off Alexandria was a formidable one, though it did not include any monitors of the *Devastation* type, which might seem to be particularly suitable for an engagement with forts, being heavily armed and armoured.* It was composed almost entirely of high-freeboard central or box-battery ships of the type widely built by all nations between 1868 and 1878, a type of ship which with its complete belt, its considerable extent of thin armour, and its armament of moderate sized guns is yet capable of doing great things, given good guns and modern engines. The flagship *Alexandra* could fire ahead two 25-ton and two 18-ton guns, and on the broadside, one 25-ton and five 18-ton guns. The weight of her broadside was 2592lbs. She had a complete armour-belt on the water-line and good protection on her central battery. She was fully rigged. The *Inflexible* was the most recent ironclad in the fleet. She was marked by extensive unarmoured ends, whilst in a citadel in the centre of the ship all the protection and armament were concentrated. She mounted four 81-ton guns in two turrets, placed *en échelon*, so that all four could fire ahead or through a limited arc on either broadside. She was the first ship in our Navy to carry compound armour. Her broadside weighed 6880lbs, and her guns and turrets were worked by hydraulic power. The *Sultan* was an inferior *Alexandra*, firing ahead two 12½-ton guns, and on the broadside four 18-ton and two 12½-ton guns. The weight of one discharge from these was 2152lbs. The *Superb* was in general outline similar to the *Sultan*, and like her was fully rigged. She had been purchased by the English Government from Turkey in the war-scare of 1878, and was now to be used against the Turkish flag.

* For details of ships see Table XII. and Chapter XXV.

H.M. Battleship Inflexible.

She brought eight 18-ton guns to bear on the broadside, firing projectiles of the weight of 3280lbs. The *Téméraire* was a ship of remarkable design, combining the central battery with barbettes fore and aft. In each of these barbettes was mounted a 25-ton gun on the Woolwich disappearing carriage, which brings the gun down out of sight by the force of the recoil, after it has been fired. Ahead, she brought to bear three 25-ton guns, and on the broadside three 25-ton and two 18-ton guns. The weight of her broadside was 2438lbs. She was fully rigged. The *Invincible*, carrying Admiral Seymour's flag, was a smaller vessel than the preceding. She fired ahead two 12½-ton guns and on the broadside five, whilst the weight of metal thrown was 1280lbs. The *Penelope*, the smallest ironclad engaged, fired four 9-ton guns, and 716lbs. weight of metal on the broadside. Her armour was only 4½-inches thick on the battery. She was masted and rigged like the *Invincible*. The *Monarch* was a sea-going masted turret-ship, mounting four 25-ton guns in two turrets placed on the centre line. In her forecastle two 12½-ton guns were mounted, and in her poop one of 9-tons. Her broadside weighed 2887lbs. The armour carried by the ships ranged from 24 inches thick on the *Inflexible*, to 4½ inches on the *Penelope*. The guns were muzzle-loaders of the Armstrong pattern, though these were supplemented by numerous 20-pounder breech-loaders, small quick-firers of Nordenfelt make, and Gatling machine-guns. From their great draught of water, the ironclads were not well suited for operations off the shallow Egyptian coast. Five drew twenty-six feet or over, and only the *Penelope* less than twenty feet. In all, they brought to bear on the broadside, four 81-ton, eight 25-ton, nineteen 18-ton, eight 12½-ton, five 9-ton, and numerous smaller guns. The weight of one discharge on the broadside from the heavy guns, was about 22,500lbs., divided amongst forty-four projectiles.

Assisting the ironclads were five unarmoured gunboats, the *Beacon*, *Bittern*, *Condor*, *Cygnet*, and *Decoy*, mounting

4½-ton and 64-pounder muzzle-loaders, with small breech-loaders. The *Helicon*, a despatch vessel, completed the tale of English ships.*

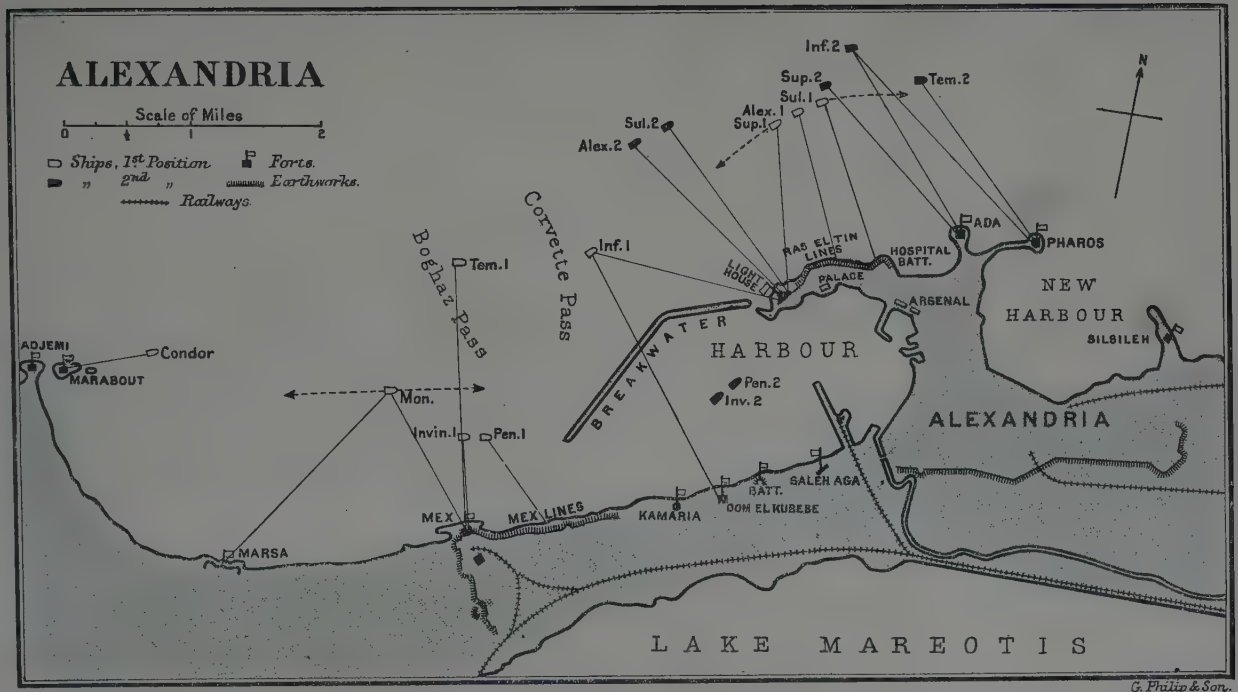
The forts which were to be attacked extended from east to west, in a direct line eight miles.† First came Forts Ajemi, and Marabout, which were not engaged by the iron-clads. Then succeeded Marsa-el-Khanat, Mex, with its extended lines, Kamaria, Oom-el-Kubebe, and Saleh Aga, all to the south of the harbour. To the north, the anchorage is enclosed by the splendid breakwater, completed in 1874, and the T shaped peninsula, of which Ras-el-Tin forms the eastern arm. On this, was a formidable series of works beginning with the Lighthouse Fort, to which succeeded the Ras-el-Tin lines. Farther along came Fort Ada, on a small island connected with the mainland by a causeway, and then Fort Pharos, a fine castellated structure, of most imposing appearance. Between this and Fort Silsileh, lies the New Harbour, which can only be used by vessels of light draught. Fort Kamaria took no part in the action with the fleet, and Fort Marsa received not a shot. With the exception of Fort Pharos, the works were low and of irregular trace. The parapets of the heavy rifled guns had regular embrasures, but the smooth-bore guns fired *en barbette*, over the parapet that is to say, and consequently

* The weight of empty shell, and the bursting charge in the various sizes of guns, were as follows:—

		Common Shell, lbs.	Bursting Charge, lbs.
81-ton	16 inch.	1640	60
35-ton	12 „	590	23
25-ton	11 „	520	22
18-ton	10 „	390	19½
12-ton	9 „	241	14½
9-ton	8 „	166	15
4½-ton	7 „	106	9¼

The figures in the text are based upon those given in the "Naval Annual," and differ slightly from these.

† For details of their armament, *see* Table XIII.



G. Philip & Son.

MAP XVIII.

their crews were very much exposed to the English shrapnel. Behind all the forts, or inside them, were buildings, such as shell-stores and magazines showing above the parapets, and offering an excellent target to the ships. The older forts were built of very soft limestone, which could easily be cut with sharp tools, and the mortar used was lime with a superfluity of sand. This masonry, if such we may call it, was backed with sand, and the parapets were of sand, sloping at an angle of thirty degrees. The magazines were mere shell-traps, abominably constructed, with open ventilators, down which any projectile could drop, conspicuous lightning conductors, and iron floors. The total number of guns mounted reached forty-four rifles, 211 smooth-bores, and thirty-eight mortars. The rifles were mostly Armstrong muzzle-loaders, and included five 10-inch (18-ton) guns, eighteen 9-inch, fourteen 8-inch, and four 7-inch weapons, with three 40-pounder breech-loaders. The weight of one discharge was about 9400lbs. from the rifles, in forty-four projectiles. The smooth-bore guns were antiquated weapons, on most indifferent and, in many cases, rotten carriages, and could not under any circumstances be expected to perforate the thinnest armour afloat in the English fleet. The perforation on the proving ground at the muzzle through wrought iron is for the 10-inch gun, 12·9 inches; for the 9-inch gun, 11·3; for the 8-inch, 9·6; and for the 7-inch, 9·5. One 10-inch rifle, on a Moncrieff carriage, in the Ras-el-Tin lines, was not used at all.

The Egyptians had abundance of ammunition, though from the way in which their shells dropped short of the English ships or flew over them, it is probable either that their powder was not in good condition, or that the charges were carelessly weighed out. They had plenty of submarine mines, but owing to the presence of the ironclads inside the harbour, and the vigilance of Admiral Seymour, had not been able to lay any down. Thus one complication was absent, and the English ships could come and go freely, without the risk of being

disabled by any submarine defences. As the supply of ammunition was limited, the reserve stores not having as yet arrived from Malta, and as it was possible that the forts would not be silenced by one day's bombardment, the ships had to be careful not to waste a shot.

On July 10th the ships were cleared for action. The lower rigging was "come up" in the line of fire and carried inboard. The topgallant masts were struck and the bowsprits rigged in. On the gunboats all the yards were sent down, though on the ironclads the lower ones were left up. The plan of action was explained to the captains in the following general order:—

Invincible, at Alexandria,
July 10th, 1882.

MEMORANDUM.

In the event of my not receiving a satisfactory answer to a summons which I shall send to the Military Governor of Alexandria, calling on him to deliver up to me, temporarily, the works on the southern shore of the harbour, and those on the Ras-el-Tin Peninsula, the squadron under my command will attack the forts as soon as the twenty-four hours given to neutrals to leave the place have expired, which will be at 5 a.m. of the 11th. There will be two attacks:

1. From the inside of the harbour, in which the *Invincible*, *Monarch*, and *Penelope* will take part.

2. By the *Sultan*, *Superb*, *Temeraire*, *Alexandra*, and *Inflexible*, from outside the breakwater.

Action will commence by signal from me, when the ship nearest the newly-erected earthwork near Fort Ada, will fire a shell into the earthwork.

On the batteries opening on the offshore squadron in reply, every effort will be made by the ships to destroy the batteries on the Ras-el-Tin Peninsula, especially the Lighthouse Battery, bearing on the harbour. When this is accomplished, the *Sultan*, *Superb*, and *Alexandra*, will move to the eastward and attack Fort Pharos, and, if possible, the Silsileh Battery.

The *Inflexible* will move down this afternoon to the position off the Corvette Pass, assigned to her yesterday, and be prepared to open fire on the guns in the Mex Lines, in support of the inshore squadron, when signal is made.

The *Temeraire*, *Sultan*, and *Alexandra*, will flank the works on Ras-el-Tin.

The gun vessels and gunboats will remain outside, and keep out of fire, until a favourable opportunity offers itself of moving in to the attack on Mex.

Ships must be guided in a great measure by the state of the weather, whether they anchor or remain under way. If they anchor, a wire hawser should be used as a spring.

The men are to have breakfast at 4.30 a.m., and are to wear their working rig.

The inshore squadron will be under my personal command; the offshore ships under that of Captain Hunt-Grubbe, C.B., of the *Sultan*.

The *Helicon* and *Condor* will act as repeating ships.

Finally, the object of this attack is the destruction of the earthworks and the dismantling of the batteries on the sea-fronts of Alexandria. It is possible that the work may not be accomplished under two or three days.

Shell is to be expended with caution, notwithstanding that the *Humber*, with a fair proportion of reserve ammunition, may be expected here on the 12th.

Should the *Achilles* arrive in time, she is to attack Fort Pharos, or place herself where the senior officer of the offshore squadron may direct.

* * * * * * *

I have, &c.,

F. Beauchamp Seymour,

Admiral and Commander-in-Chief.

To the Captain and Officers

Commanding H.M. Ships at and off Alexandria.

At nightfall the ships took up their allotted positions. The *Alexandra, Sultan*, and *Superb* lay off the Lighthouse Fort, on which they were to fire; the first being distant from it 1500 yards; the second, 1750 yards; and the third, 1950. Line ahead was their formation. At the entrance to the Corvette Pass, one of the deep-water channels leading to the harbour, was the *Inflexible*, 3750 yards from Mex, with one turret ready to bear on the Lighthouse Fort, and the other on Oom-el-Kubebe. Outside the Boghaz Pass the *Téméraire* had run aground, 3500 yards from Mex, upon which she was to fire. Inshore, 1000 yards from Mex, were the *Penelope* and *Invincible*, whilst 300 yards further out was the *Monarch*.

These three ships were to make the main attack upon Mex. Those ships which were manœuvring in company were two-and-a-half cables apart.

The morning of July 11th was clear and bright. The sea was smooth, and the wind a light one from the north and west, blowing the smoke inshore and hiding the target, thus preventing the gunners from seeing where their shots struck. As they could not tell whether the range was correct, good shooting was made difficult, and the difficulty was not diminished by a strong sun in the English sailors' eyes. If these circumstances were unfavourable, the other conditions were promising enough, the absence of a swell or rough sea compensating for sun and wind.

At four o'clock steam was up, and the men, having breakfasted, were piped to quarters. All were in the highest spirits, and the only anxiety was lest the Egyptians might at the last minute give way. But the ardour of our seamen was reassured by the news from the tops that the enemy could be seen grouped round the guns in the forts. In absolute silence the minutes slowly passed. The discipline, as was to be expected, was perfect on board the ships, and the stillness of the morning was only broken by the tingle of the engine-room bell and the sound of orders given in a low voice.

At 6.30 the order, "Load with common shell," was heard. Again followed minutes of waiting. At last, at 7 o'clock, the long-looked-for signal came from the *Invincible* to the *Alexandra,* ordering her to fire a shell into Fort Ada, by way of informing the Egyptians that the fleet was ready. Hardly had the boom of the gun died away when the signal for general action flew out at the *Invincible's* fore, and was instantly responded to by the crews. A tremendous roar broke the stillness: there was the heavy roll of the great guns, the loud rumbling of the *Inflexible's* colossal shells as they wobbled in the air with a noise like that of a distant train, and the steady drumming of the Nordenfelts. From the ironclads' sides spouted great columns of smoke, whilst the concussion of guns,

made the ships quiver, and on the *Inflexible* shattered her boats. The gun crews were stripped to the waist as in the great days of old, though the guns they were handling were no longer diminutive 18 and 32-pounders, but huge Woolwich infants. The sailors, sitting down between each round to allow the smoke to clear, watched the practice as keenly as a crowd of spectators an Eton or Harrow match. Rounds of applause greeted the good shots, jeers and chaff the misses. In the tops, above the dense screen of smoke which hung between the ships and the shore, officers marked where the shots fell, and by voice-pipes informed the gunners. The machines of war were being tested in action, and though the test was not a severe one, they were working well.

The Egyptians were not slow to reply to the fleet. Their forts at once opened, and soon their projectiles began to reach the ships, tossing showers of splinters when they struck the unarmoured parts, but falling idly into the sea where they encountered armour. It was a holiday for the seamen of the fleet, who, behind armour, which was not penetrated, and which gave thorough protection, were firing at men almost unprotected. It was not their fault that the odds were not more even, and we may be certain that they would have wished them to be so. The gallantry of the Egyptians was quite unexpected. Amidst the hail of shells, of shrapnel, of Nordenfelt, and Gatling bullets, their officers could be seen leaping upon the parapets, and encouraging their gunners by their brave example. As the heavy shells exploded they threw up a dense cloud of yellow dust and smoke, hiding the Egyptians from view. But when the cloud cleared away, instead of the gun being silenced, the gunners could be seen still steady at their posts. The practice from the ships was watched with admiration by the foreigners on the spot. In particular the *Inflexible* excelled in the shooting of her gunners, who appeared to pitch every shot from their gigantic guns upon the Ras-el-tin or Mex parapets. But the fire from this ship was most excessively slow, and the same may

be said of the *Téméraire*. How far it proceeded from a determination to husband the ammunition, and how far from the difficulty of working the very big guns, we are not informed.

At 7.10 all the ships were firing, and all the forts within range were replying. The weight of the English broadsides and the mass of machine-gun bullets hurled upon the works soon began to tell. At 8.30 a gun-cotton magazine, to the rear of Fort Marsa-el-Khanat, was exploded by the *Monarch's* fire. Soon afterwards Lord Charles Beresford, in his little gunboat, the *Condor*, noticed that the fire of Fort Marabout was greatly annoying the inshore squadron, as shell after shell came sailing up, dropping thirty to forty yards short. Accordingly, he stood in towards the fort, under the muzzles of its 9-inch guns, till he himself was within easy range. Then selecting a position where the enemy's guns could only reach him with great difficulty, he dropped his anchors, and by warping his ship to and fro, paying out or hauling in cable, kept her in motion, and eluded the Egyptian projectiles, playing vigorously upon the fort all the time with his muzzle-loaders and machine guns. Thus he completely drew off the fire of the Egyptians from the fleet, and at the same time avoided the heavy shells from the fort, any one of which would have been sufficient to sink his weak, unprotected vessel.

The *Sultan*, *Superb*, and *Alexandra* had been at first kept in motion, and had steamed twice past the Ras-el-Tin batteries. But it became evident that with the constantly changing ranges, their fire lost in accuracy, whilst the gain in protection was not worth considering. Therefore, about nine o'clock, they anchored off the Lighthouse Fort, and at once began to improve their practice. The *Superb*, in particular, won applause by the good shooting of her gunners. About this time, a 10-inch round-shell from a smooth-bore passed through the *Alexandra's* unarmoured side, and lodged on her deck. With great gallantry and presence of mind, one of her gunners, Israel Harding, who had from below heard the shout,

"There is a live shell just above the hatchway," rushed up the ladder, and taking some water from a tub near at hand, flung it upon the burning fuse, then seized the shell, and placed it in the tub of water. For this act, he was awarded the Victoria Cross. At 10.30, the Lighthouse Fort, which had been very severely handled by the guns of the *Inflexible* and the offshore squadron, ceased fire. The guns then began to play upon Pharos and Ada, whilst the offshore squadron was reinforced by the whole fire of the *Inflexible*, after she had with the inshore squadron's help, silenced Mex, and by the *Téméraire* which had got off the shoals. The two forts could not resist the powerful fire which was poured in upon them, and great gaps quickly began to show in the brickwork face of Pharos. At 1.30, the *Inflexible* appeared to have blown in the whole face of Ada, and two minutes later, a shell from the *Superb* struck a magazine in the fort. There was a terrific explosion, like the pent-up rush of fire from a volcano, hurling timber, bricks, and men in all directions. On this, Ada was evacuated, and a little later Pharos, though in the Hospital battery one 7-inch gun still fought. It was invisible from the ships, and the utmost difficulty was experienced in silencing it; at five o'clock it was still firing at intervals of ten minutes. The fire from the Egyptian works on the Ras-el-Tin and Pharos promontories had now ceased with this exception, and henceforward the English ships used their guns mainly to scatter any groups of men who gathered from time to time in the battered forts.

Further to the west, Lord Charles Beresford had fought unsupported, off Marabout, for an hour-and-a-half. At ten, the other gunboats were sent in to his aid by the admiral, and following the tactics of the *Condor*, they took up positions where they could not be touched, and used their machine-guns from their tops with great effect. It was their light draught which enabled them to do this. The *Invincible*, *Penelope*, and *Monarch*, which were attacking Mex, each adopted a different manœuvre to keep their broadsides bearing. The

Invincible anchored and maintained her position by means of springs. The *Penelope* steamed out 1200 yards, and then allowed herself to drift in to a distance of 700, on which she repeated the evolution. The *Monarch,* whose deeper draught kept her further out, steamed backwards and forwards. Further still from the coast were the *Téméraire* and *Inflexible,* co-operating with the inshore squadron, and linking it to the offshore division. At 12.45, however, these two ships ceased their fire on Mex, and went round to bombard Pharos. At 2 o'clock, as it could be seen from the tops of the ships that the gunners in the lower battery of Fort Mex had abandoned their guns, and as it was probable that the supports had been driven into the citadel by machine-gun fire, volunteers were called for to land and destroy the guns. Twelve men were selected for this dangerous mission, and under the command of Lieutenant Bedford safely reached the fort. There was a heavy swell, and some little difficulty was experienced in getting ashore through the surf which was breaking. Two heavy muzzle-loaders were disabled by exploding gun-cotton inside their muzzles, and six smooth-bores were spiked, after which the landing party re-embarked, without any other casualty than the loss of the *Bittern's* dinghy. The *Condor* was recalled with the other gun-boats, and as she went past the flagship was greeted with cheers, whilst the admiral signalled to her, "Well done, *Condor.*"

The bombardment was now practically over. From the sea the forts appeared to be a mass of ruins, and their fire was very intermittent. It was fortunate that the task of the English fleet had been so successfully accomplished during the forenoon, for soon after mid-day the heavy swell made the ships roll, and diminished in some degree the accuracy of their fire. At 5.30 p.m. the signal to cease action was made; if the firing had continued longer shot and shell might have run short, as the *Inflexible* had only ten rounds apiece eft for her heavy guns, and the *Sultan* not enough ammuni-

tion for more than another hour's bombardment. Pharos, the last fort to be silenced, held out till 4.30.

The night was spent by the ships in making necessary repairs, in view of a renewal of the engagement next morning. The town was in darkness, as Arabi had caused all lights to be extinguished, but the glow of a great fire could be seen. A sharp look-out was kept on board the squadron, to prevent the Egyptians from using torpedoes or rebuilding their forts, and the shore and harbour were constantly swept with the search-lights of the ships. At daybreak, in heavy, gloomy weather, the dead were committed to the sea; but a rising wind prevented any immediate action. The *Achilles* had now arrived to reinforce the fleet, and on the weather moderating, the *Téméraire* and *Inflexible* were directed to renew the attack upon Pharos and Ada. A few shots were fired, when a flag of truce was hoisted, but, on sending Lieutenant Lambton on shore to receive the surrender of the forts, Admiral Seymour heard that the Egyptian Governor would not give them up. The Governor on this was informed that the bombardment would be recommenced, and at 4 p.m. a shot was fired at Pharos, after which the white flag was once more hoisted by the Egyptians. It was decided by Admiral Seymour to postpone further action till the next morning, as the day was now advanced. On the 13th a reconnoitring party discovered that the forts had been abandoned. Parties were landed from the British and American ships to protect the Europeans in the town, and the guns in the forts were spiked. It is worth our while to recall the fact that the American sailors, on the close of the bombardment, loudly cheered our ships, and that at the landing they gave us the readiest support, thus emphasizing once more Captain Tatnall's saying, "Blood is thicker than water."

The English losses were exceedingly small. On the *Alexandra* one man was killed and three wounded; on the *Superb*, one killed and one wounded; on the *Sultan*, two killed and eight wounded; on the *Inflexible*, one killed and

two wounded, of these Lieutenant Jackson mortally; on the *Invincible*, six were wounded, and on the *Penelope*, eight, making a total of five killed and twenty-eight wounded. Lieutenant Jackson died of his wound five days later. He was the only commissioned officer who lost his life. The Egyptian losses have never been accurately ascertained, but they must have been heavy. There are supposed to have been about 2000 men in the forts, besides considerable bodies of men drawn up to the rear. At Mex it is said that one officer and fifty men were killed, whilst fifty were wounded, out of a total of 150. In the northern forts and lines fifty are said to have been killed and 150 wounded; in the southern forts sixty-five to have been killed, and 150 to 200 to have been wounded. The total loss is variously returned at from 300 to 2000. The latter is probably a much exaggerated estimate.

The damage to the ships was in just proportion to the loss of life, and singularly small. The *Alexandra* had twenty-four hits from shot or shell outside her armour. Her fore-funnel was struck three times, her standing rigging eight times, whilst her running rigging was a good deal cut about, showing that the Egyptians had fired too high. On her armour several blows could be counted, but in no case were these more than dents. Three of the guns were badly scored by shells which had burst inside, and in two, the inner or A tube had been split. These were still fired, though they had to be examined after each round. The *Inflexible* was the most damaged. A 10-inch rifle shell struck her below the water-line outside her citadel, and glancing straight up passed through her deck, killing a carpenter and wounding Lieutenant Jackson as he was directing the fire of a 20-pounder mounted on the superstructure. She had to be docked for repairs. The concussion of her 81-ton guns also injured her boats and superstructure. The *Invincible* had numerous dents in her armour, and her side was several times perforated outside it. The *Penelope* was hulled eight times, but only, it is probable, by smooth-

PLATE XVIII.

H M. BATTLESHIP ALEXANDRA.

See p. 338.

bore shot. No serious damage was done to her. One 36-pounder shot entered her cabins and described a zig-zag course in the ship's interior, whilst No. 2 gun on the port side had its muzzle chipped, but could still be fired. The *Sultan* had a plate dented and started on the water-line, four boats damaged, a shot through the after-funnel, and another through the mainmast, which severed the voice-pipe to the top. The *Superb* had a bad hit on the water-line just above her armour-belt. A shell, bursting there, blew a hole ten feet long and four feet wide. There was a second hole ten inches in diameter near her port fore torpedo-port, and a third twelve inches in diameter abaft her port battery. Her armour was dented in two places, and her foremast shot through. In bad weather, steaming in a heavy sea, the large hole would have been found awkward if not dangerous. The *Téméraire* and *Monarch* had no damage of any kind to report. In no case was the thinnest armour penetrated, and in no case was the damage done sufficient to have prevented any ship from re-engaging.

A close inspection of the forts revealed the startling fact that, serious as their injuries appeared to be from the sea, they were not in reality crushing, and that with certain easily-effected repairs, almost all of the guns might have been fought again. Excluding self-inflicted harm, through violent recoil upsetting improperly secured guns, only ten rifled weapons had been silenced by the fire of the fleet. In Saleh Aga, one 6½-inch smooth-bore had been dismounted;* in the next battery, one of 10-inch calibre; in Oom-el-Kubebe, another 6½-inch; in the Martello Battery, one 6½-inch; and in Mex, one rifled 8-inch gun: Silsileh had not been engaged, having only fired a few rounds. Pharos was breached by the fire of the fleet, and had thirteen guns disabled from various causes, but of its heavy rifles, five out of six could have been worked. In Ada, four guns were disabled, and the explosion of the

* It is doubtful whether even this one gun was not disabled by accident.

magazine, had done much damage. The face of the fort was severely battered, but not seriously injured. In Ras-el-Tin Fort, the parapet at the western end was breached, and three heavy 12-ton rifles were knocked out of position.* One of these had perhaps been struck by an 81-ton gun shell from the *Inflexible*, and had been tossed a distance of ten to twenty feet, horribly crushing several of the gunners. The other two seemed to have been upset by their own recoil. In the Hospital Battery,† forty-nine shrapnel marks could be counted on one gun; the embrasures in front were destroyed, and the guns laid bare, but, so far as the fire of the ships was concerned, not materially injured. Two heavy rifles were disabled by easily repaired injuries. In the Ras-el-Tin lines, three out of six rifles were disabled, but two could have been very quickly repaired. In Oom-el-Kubebe, which fought the *Inflexible* at 3800 yards, and thus was to some extent searched by high angle fire, only one old smooth-bore was smashed. Mex, which mounted five heavy rifles, had received a tremendous fire at short range, yet not a gun had been dismounted till, when the fort had ceased firing, the *Penelope's* gunnery lieutenant hit and overturned an 8-inch rifle at a distance of only 300 yards.

There can be no doubt that the heavy artillery of the ships achieved much less than had been expected from it. The huge shells of the *Inflexible*, with a bursting charge of 60lbs. of gunpowder, produced very little effect against earthworks. Of the total number of shots fired, excluding shrapnel and segment, only five per cent. struck the parapets of the forts. Of the shells which did strike, many were blind, and failed to burst, whilst no inconsiderable number burst prematurely in the air, and were therefore wasted. One shrapnel, indeed, went off in an 81-ton gun on board the *Inflexible*, but did no damage. Often the English shells on

* This Fort is the same as Lighthouse Fort.

† This really formed part of the Ras-el-Tin Lines.

striking, split longitudinally, showing that they had received a violent shock; yet even this was insufficient to set them off. An 8-inch shell from the *Penelope* was found lying unexploded in the midst of an Egyptian magazine, containing 400 tons of powder. It is an interesting fact, that the ships mounting hydraulic-worked guns—the *Téméraire* and *Inflexible*—made the best shooting. But though the English fire was steady and well directed, the aim was generally too high. The total number of rounds expended by guns of 7-inch calibre and over in the fleet, was 1731; by smaller guns (64-pounder to 7-pounder), 1467: by Nordenfelts, 16,233; and by Gatlings, 7100. The sixteen thousand Nordenfelt cartridges inflicted exactly seven hits on guns or carriages,* though the masonry, to rear of the forts, was deeply pitted with scars of machine-gun bullets. The range was excessive for these weapons, and except at Mex, where the attack was delivered at close quarters, they would seem to have wasted their ammunition.

The fleet scored a brilliant success, for it effected its purpose of capturing the forts; more than this, it captured them with trivial loss of life and damage to the ships. The operations were well conceived and well executed; from first to last there was no hitch. It is, however, useless to imagine that, because Sir Beauchamp Seymour reduced the Alexandria works, with comparative ease, similar operations could be repeated against forts garrisoned by troops of skill and *morale*, and armed with artillery that could match the fleet's. With this subject we have dealt already in Chapter IV.; we shall now add some further illustrations of the conclusions there arrived at. Heavy guns are seen to be ineffective against forts; the object when bombarding is to hit your opponent's guns, and if this be done it matters little whether the shell weighs 100-lbs. or 1600-lbs.; it will be equally certain to disable the gun in either case. Thus a numerous armament of medium-sized guns will be best for the attack on forts, 8-inch or 6-inch weapons being

* It is, however, possible that there were more hits of which no trace remained. Journ. U.S.I., xxvii., 200.

quite heavy enough. One English officer gave it as his opinion that the artillery of a wooden line-of-battle ship would have proved far more effective against the Egyptians than the *Alexandra's* or *Inflexible's* few and heavy guns, from the fact that so many more projectiles would have been discharged. Neither mortars nor mines were effectively used by the Egyptians, whereas in the attack upon any modern naval fortress, ships would find both employed against them. The Egyptians had plenty of mines, as eighty-seven each, of 500 and 250lbs. of gun cotton, were found in their magazines, besides 500 of 100lbs. Had they got these into position the inshore squadron could never have entered the harbour, or the *Téméraire* and *Inflexible* taken up the position which they occupied. And the presence of mines has a moral effect upon crews which does not altogether improve their shooting. Mortars were mounted in great number in the forts, but very few rounds were fired from them and no hits made; had there been hits, remarks Lieutenant-Commander Goodrich, the history of ordnance might have been changed.* Ships are peculiarly vulnerable to high-angle fire, and even a three or four-inch deck has been shown to offer a very ineffectual resistance to a vertically falling projectile. Three only of the ironclads engaged at Alexandra had an armoured deck at all; these were the *Inflexible, Alexandra,* and *Téméraire*, so that all the rest, from upper deck to bottom, offered no obstacle to the passage of the smallest shell, and with accurate fire might have been easily sunk. Even if the mortar fire had been inaccurate, but yet vigorous, it would have prevented the offshore squadron from anchoring, and thus very likely have hindered the ships from silencing the forts before dusk.

The effectiveness of armour, though in most cases of old-fashioned soft, wrought iron, in protecting the ships is noticeable. But here again, with good gunners, the damage inflicted upon the unarmoured portion must be most serious, and

* Goodrich, p. 18.

might quite conceivably be such as to imperil the ship's stability. Because the *Inflexible* was not wrecked outside her citadel on this occasion, it does not follow that if she attacked Brest or Toulon, she would not be riddled there. At Alexandria again, the forts could not support each other, whilst the ships could. It was open to Admiral Seymour, if he had chosen, to bring his whole broadside to bear upon fort after fort, silencing each in succession. The Egyptians could not have concentrated their fire in reply to such tactics. The guns of Pharos would not bear upon a target to the west of Ada, nor those of Ada upon one to the east of Pharos; and this was the case, in a less degree, with the other forts. But trusting to his British crews, and to his superiority in artillery, Admiral Seymour did not attempt such a plan. Had the forts been stronger, or fought with more determination, he might have found it necessary.

The American official report upon the action, strongly urges the advantage of vertical fire in attacking forts. The *Jeune Ecole* in France, who put great trust in long bombardments, are equally vehement in calling for mortar vessels or their modern equivalent. It is certain that in our great war with France, we found them valuable for the attack upon fortified places, and that the number upon the navy list rose steadily. The Northerners, in the Civil War, used them with effect upon the Mississippi. In the Crimean War we discovered that for want of them, we could do nothing against the great Russian fortresses, and had to build them both for the Black Sea and Baltic. It might, therefore, be well to build a class of small ironclads for the special purpose of bombarding, each mounting from two to four heavy rifled howitzers. At the same time, the howitzer is useless for combat at sea—ship against ship. In our newer battleships, the mountings admit of a very great degree of elevation, but this does not really convert their guns into howitzers. Either they must reduce the charges, or else steam out to a great distance. In either case, the difficulty of effecting hits will be excessive. A second

conclusion of the American report has an important bearing upon the question of end-on fire.* Broadside guns, in a heavy swell, do not shoot so well as axially mounted weapons. Other conclusions are, that no projectile will get through thirty feet of earth; that ships gain in accurate fire by anchoring, whilst they do not lose by increased exposure to hits by the enemy's guns; a very doubtful conclusion with vertical fire and quick-firing guns: that ships do not engage upon equal terms with forts: and that ships can always run past forts, if there are no mines or obstructions in the fairway.

It is not probable that in future wars, bombardments such as that of Alexandria will be repeated. The odds in favour of the shore force have grown too great, and the difficulty of supplying ammunition is too overwhelming. The tactics of the Northerners and of the Japanese in land attacks upon the threatened naval ports, are the modern equivalents of our assaults upon Algiers and Alexandria, and may be expected to replace them.

The following was the official Egyptian account of the affair. It appeared in an Arab newspaper, and is characterised by a truly oriental mendacity in its assertions:

WAR NEWS.

On Tuesday, 25 Shaban, 1299, at 12 o'clock in the morning (July 11, 7 a.m.), the English opened fire on the forts of Alexandria, and we returned the fire.

At 10 a.m. an ironclad foundered off Fort Ada.

At noon two vessels were sunk between Fort Pharos and Fort Ajemi.

At 1.30 p.m. a wooden man-of-war of eight guns was sunk.

At 5 p.m. a large ironclad was struck by a shell from Fort Pharos, her battery was injured, and a white flag was immediately hoisted by her as a signal to cease firing at her, whereupon the firing ceased on both sides, having lasted for ten hours without cessation. Some of the walls of the forts were destroyed, but they were repaired during the night. The shot and shells discharged by the two sides amounted to about 6000, and this is the first time that so large a number of missiles have been discharged in so short a time.

* Goodrich, Part I., pp. 69-75.

At 11 a.m. on Wednesday the English ships again opened fire, and were replied to by the forts, but after a short time the firing ceased on both sides, and a deputation came from Admiral Seymour and made propositions to Toulba Pasha which he could not accept.

No soldiers ever stood so firmly to their posts under a heavy fire as did the Egyptians under the fire of twenty-eight ships during ten hours.

At 9 a.m. on Thursday an English man-of-war was seen to put a small screw in place of the large one which she had been using, and it was then known that her screw had been carried away by a shot from the forts.

On examining other ships it was observed that eight had been severely battered on their sides and that one had lost her funnel.

H21 754 755 5

A CHARGE
IS MADE FOR
REMOVED OR
DAMAGED
LABELS.